MAY 2014
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233 PRODUCTS REVIEWED!

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LOGIN LUNACY
Put an end to password pain

BODY OF EVIDENCE
Vital stats to save your life

SEEING RED
Why you pay through the nose for wine

TESTS
Mixers
Blenders
Fridges
Air con
Cameras
Printers
Cordless phones
Bike lights

SWEET DECEIT
Do you want yoghurt with your sugar?

RAG TRADE RIP-OFF
Shop smart and save online

Fighting for FoFA

We don't see consumer protections as red tape, which is why we'll fight on for FoFA

CHOICE has long been concerned about just how difficult it is to find good financial advice.

And now the battle over financial advice laws is shaping up to be one of the defining moments of the new parliament.

The growing importance of superannuation has increasingly made this a priority, because for many of us, super is the largest investment we will ever have. Most of us also realise that the quality of our retirement will be determined by how well our investments are managed.

That's why people seek out financial advice – but it seems that finding good financial advice is no mean feat. CHOICE has heard far too many examples of people losing their retirement savings due to poor advice, or finding that their investment income has been eroded by fees that they didn't know about.

To address these concerns, CHOICE fought for and won major reforms to the laws governing financial advisers. Called the Future of Financial Advice reforms, or FoFA, these laws sought to protect consumers, by ensuring that financial advice should always be in the best interests of consumers, requiring the disclosure of fees, and banning conflicted remuneration arrangements like commissions.

By prioritising the interests of consumers, these laws undermined the very business model of the financial advice industry – which is based on a tangled web of opaque fees and incentives that reward the very advisers that consumers turn to for help.

As you might expect, the industry fought back.

The government's response was to try to undo some of these important protections, as part of its push to reduce "red tape". At CHOICE, we don't see consumer protection as red tape. In an area as important as financial services, good consumer protection is also good for the country.

We were therefore pleased when, in response to the growing campaign by CHOICE and other groups, the Assistant Treasurer announced a pause to the government's changes to these laws to allow for more consultation.

But as long as these changes have been simply paused, rather than abandoned, the fight is not over – and in the coming months, we will be looking to you to tell your member of parliament why it is important to have laws that protect consumers from bad financial advice.

In the meantime, within CHOICE we have been working on a new website and we are very excited to allow you to take a sneak peek. We have launched a "beta", or trial, version of the Home and Living section of the new site and we are keen to know what you think about it. For more information, see page 19.

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For general membership & consumer enquiries, phone 1800 069 552

CHOICE

CHOICE gives you the power to choose the best goods and services, and avoid the worst. We pay full price for the products we test, so remain 100% independent. We don't take advertising or freebies from industry. We're not a government body and our consumer publishing and advocacy is almost entirely funded by subscriptions to our magazines, **choice.com.au** and from other services we supply to benefit members and consumers. CHOICE product ratings are based on lab tests, expert assessments and consumer surveys. CHOICE staff also research a wide range of consumer services. They reveal the truth behind the facts and figures, and investigate the quality and the claims. **SUBSCRIBE** To review the full range of membership benefits available to you, go to **choice.com.au/signup** and compare all our options for providing you access to our premium content across our website, mobile, tablet and print products. **SUBSCRIPTIONS/RENEWALS** Call 1800 069 552 or email us at **ausconsumer@choice.com.au**

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Fight or flight: what can you do about variable airline pricing? See page 34

Andy Kollmorgen finds airline pricing is up in the air

Will Medibank premiums rise?

The Abbott government insists that premiums won't increase as a result of its recent decision to privatise health insurer Medibank Private.

Minister for Finance, Mathias Cormann, said Medibank will still need to compete against the 34 other health funds and comply with regulatory requirements in premium changes.

In announcing Medibank will be sold before July 2015, Cormann said there is an inherent conflict where the government is both regulator and owner of the largest participant in the market. Medibank paid about $450m in dividends to the government in 2012 and 2013, but the Australian Medical Association told the ABC that "a new owner of Medibank will need a return on equity greater than the government is currently receiving". **JODI BIRD**

Flight Centre fined over fares

Flight Centre has been fined $11m after being found guilty of attempting to persuade Singapore Airlines, Malaysian Airlines and Emirates to stop offering airfares at lower prices than those the travel agent itself offered.

The Federal Court found that on six different occasions between 2005 and 2009 Flight Centre attempted to enter into arrangements with the airlines so it wouldn't lose money on its "lowest airfare guarantee".

The court ruled that Flight Centre had tried to induce the airlines to enter an anti-competitive arrangement that would stop the airlines offering cheaper fares to consumers and therefore protect Flight Centre's profit margins.

ZOYA SHEFTALOVICH

Here's cheers to marinated meat

There's been plenty said about the link between barbecued meat and colon cancer, but now some researchers suggest marinating meat with beer could reduce cancer risk.

Grilling meat forms molecules called polycyclic aromatic hydrocarbons, (PAHs), which may increase your chance of cancer. However, recent experiments at the University of Porto in Portugal show that soaking the meat in the antioxidants found in beer may reduce carcinogen levels. They revealed that while lighter beer reduced PAH levels by around 13%, black beer averaged a reduction of more than 50%, a result that will warm the cockles of many a meat lover's heart. **MIRANDA HERRON**

BREAKING NEWS

NSW health

A report comparing the healthcare of NSW to the rest of Australia and 10 other countries found 15% of patients said they'd skip a consultation or medication due to cost. According to the report, published by the Bureau of Health Information, in 2013, 29% of NSW adults did not visit the dentist due to cost, which is higher than the UK and Germany.

NSW has the highest rate of caesarean delivery of other countries in the survey

The state compared favourably in the international context, with the third highest percentage of adults responding that the health system worked "pretty well and only minor changes were needed", placing NSW behind only the UK and Sweden.

ZOYA SHEFTALOVICH

Cloud cuts

Consumers are set to reap the rewards of a cloud storage price war, with Google and MediaFire slashing online space costs to a fraction of that offered by competitors.

Google Drive now offers a terabyte (1TB) of online capacity for just $10 per month, while MediaFire has halved that price and then halved it again with a 50%-off offer for new users that brings the cost down to just $2.50 per month. The online storage giants have thrown down the gauntlet to competitors such as Dropbox, which charges $10 per month for 100GB - a tenth of the capacity of the new Google offering.

The dramatic upscaling of cloud storage is a game changer which is expected to force competitors to follow suit. **STEVE DUNCOMBE**

Pesticide reform scheme to be pulled

Dozens of pesticides used in agriculture that have not been fully assessed in Australia will remain unassessed if the federal government puts a stop to a re-registration scheme planned to commence in July.

The previous government introduced the scheme, which would have required systematic review of these chemicals to ensure they are safe according to the most recent regulatory and scientific standards.

However, the current government's policy is to undo the reforms, despite the fact that some of these pesticides are no longer used in other developed nations, including the European Union and the United States. So far, it has introduced legislation to Parliament and referred it to a Senate Committee inquiry.

CHOICE made a submission to the consultation process around removing the re-registration scheme, arguing that the scheme is critical to ensure that harmful chemicals or pesticides are removed from use.

Pesticides play an important role in Australia's food supply, but CHOICE believes it's crucial that the risks they could pose to our health and the environment are assessed against today's regulatory and scientific standards.

CHOICE is calling on the federal government not to remove the re-approval and re-registration scheme. You can help by signing our petition to Agriculture Minister Barnaby Joyce at choice.com.au/pesticidepetition.

Failure to thoroughly evaluate agricultural chemicals and pesticides ignores the potential health and environmental risks these products pose, and also risks damaging consumers' confidence in the food supply.

ANGELA CARTWRIGHT

IMAGES: SHUTTERSTOCK AND THINKSTOCK

Weight and see

Overweight men who trim down prior to conception may improve the prenatal development of their children. University of Adelaide health researcher Dr Michelle Lane said their mouse model showed eating better or exercising increased the size and number of cells that support the growth and development of the unborn baby.

"Our research proves that males play a far greater role than simply fertilising an egg," she said. "Their weight and metabolism at the point of conception play a critical role in the development and growth of their offspring."

ANDY KOLLMORGEN

Images of iPhone 6 leaked

Images of the rumoured iPhone 6, which show a thinner, lighter device with a full-screen display, have made their way onto the internet, originating from French site NoWhereElse.

The images, based on sketches published in the May issue of Japanese magazine *MacFan*, give a sneak peek of the iPhone 6, also rumoured to be known as the iPhone Air.

Apple fans in Australia could be making calls on a much larger iPhone 6 by as early as July, though September is more likely. And according to widespread reports, it will come in two sizes, with a choice of 4.7-inch or 5.5-inch screens. A bigger screen is one of the most anticipated features of the new iPhone, which so far hasn't kept up with the larger screen sizes offered by competitors.

Because Apple doesn't announce anything about its products before their launch dates, finding leaked details about Apple's flagship smartphone ahead of time is the subject of intense competition, and rumours abound. But some of them are from very reputable sources.

Other rumours about the iPhone 6 include a curved display, sapphire crystal screen, liquid-metal body and faster, energy-efficient new A8 processor.

STEVE DUNCOMBE

ACMA finds against Optus

Optus has been given a formal warning for overcharging customers nearly $9m. The Australian Communications Media Authority (ACMA) found in a recent investigation that the telco wrongly charged 237,600 customers over a four-year period for two of its messaging services, SurePage and SpinVox.

Between November 2008 and July 2011, 2600 customers were overcharged for the services due to errors in an IT upgrade. The billing problems continued until September 2012, affecting another 235,000 customers. A year later, after the problems were rectified, Optus reported its own error to ACMA.

ACMA's investigation found the telco breached the Telecommunications Consumer Protections Code by failing to identify and fix the root cause of the billing problems as soon as possible.

JEMMA CASTLE

Credit card surcharges remain

New data has revealed Australians pay an estimated $800m in credit card surcharges annually, mostly to airlines. This amounts to an average of $100 per Australian household.

This is despite RBA reforms designed to stop excessive credit card surcharges, which have been in operation since March 2013. Under the reforms, surcharges are meant to be no higher than the "reasonable cost of card acceptance". According to RBA data, this should be one per cent for merchants processing transactions through Visa and MasterCard.

A year since the RBA introduced long-overdue rules designed to limit credit card surcharges to the reasonable cost of the transaction, companies such as Cabcharge, Qantas, Virgin Australia, Jetstar and Tiger continue to use card fees as a way to raise additional revenue.

A CHOICE review in early 2014 found consumers flying Qantas from Sydney to Melbourne can still pay a staggering 523% more than the average merchant service fee. This is similar to the 568% they were paying back in March 2013.

MADISON CARTRIGHT

The state of the super nation

Superannuation assets are now worth $1.8 trillion but financial advisers aren't trusted by Australians. Only one quarter of us rate them favourably for ethics and honesty, according to market research company Roy Morgan.

Its annual *State of the Nation* report comes on the back of the heat some financial planners have been facing of late after pushing to amend the Future of Financial Advice (FoFA) legislation. The amendment would allow planners to continue recommending financial products for which they receive hidden ongoing commissions. The move follows an ASIC investigation into retail structured products late last year, which found advisers had not sufficiently established a reasonable basis for advice in 50% of cases.

At a recent launch of the report, Roy Morgan CEO Michele Levine said that despite the money tied up in super, Australians are still under-funded for retirement. She said a major issue to be examined in the upcoming Financial System Inquiry will be the competence of the people managing super funds.

Looking at the period since the last inquiry in 1997, the report shows the big four banks have all grown their market share on a variety of financial products, primarily through swallowing smaller banks, with their share of accounts, credit cards, loans and home loans all 70% or higher. But this isn't the case for superannuation – the big four banks have a combined share of just 18%.

Self-managed super funds (SMSF), on the other hand, comprise over a third of superannuation assets. And interestingly, Australians have more trust in accountants (who are largely responsible for arranging SMSFs) than other financial services professionals, such as bank managers, stock brokers and insurance brokers.

JODI BIRD

Office now on iPad, Android

You'll soon be able to run genuine Microsoft Office on more gadgets, with the announcement of a new mobile- and cloud-first strategy that includes bringing Word, Excel and PowerPoint to Apple's popular tablet and Android phones. The software giant says the apps have been redesigned specifically for the iPad's touchscreen operation.

You can download free versions of the programs from the Apple App Store for viewing Word, Excel and PowerPoint files, but you need a subscription to Microsoft's Office 365 service to create or edit documents.

iPad users have long been able to open and edit Microsoft Office documents on the iPad itself using a variety of other programs such as Apple's own iWork productivity suite, and third-party programs such as Documents To Go, along with remote access cloud apps such as Cloud On and Parallels Access. However, many users have long bemoaned the lack of genuine Microsoft Office apps on the iPad itself. **STEVE DUNCOMBE**

IMAGES: SHUTTERSTOCK

Door knocker lands $1.2m fine

Energy Australia has been slapped with a $1.2m penalty in the Federal Court for illegal door-to-door selling practices. The legal action was the latest in a run of cases brought by the ACCC.

According to the regulator, the court found that the energy giant's sales force "made false and misleading representations and engaged in misleading and deceptive conduct".

Another $290,000 in fines was levied against three marketing companies that Energy Australia contracted to hire and train the door knockers.

The ACCC has now moved to re-authorise an industry code of practice for door-to-door energy sales.

Dodgy sales tactics

In seeking to close a sale, the Energy Australia door knockers often resorted to outright fabrication. Sales tactics included:

- Sales reps telling consumers they were part of a government initiative to make sure energy companies were charging the correct rate.
- Telling consumers they would become eligible for additional government entitlements if they changed to Energy Australia.
- Telling consumers their current retailer was charging more than the mandated electricity rate.

In violation of consumer law, door knockers also failed to make clear that they were salespeople representing Energy Australia and had to leave the premises if asked. Some also ignored "do not knock" signs.

The latest win

The ACCC is currently pursuing a case against AGL and Origin Energy for illegal door-to-door sales practices. In May 2013, AGL Sales was ordered to pay $1.5m in fines and the marketing company it contracted, CPM Australia Pty Ltd, was ordered to pay $200,000.

An August 2012 CHOICE investigation revealed that CPM was advertising for "residential field sales agents" to sell energy products at $18 per hour plus "uncapped commissions" and a chance for weekly and monthly bonuses based on sales.

CPM said applicants need only learn some "simple procedures and selling techniques" and would be carted around neighbourhoods in a company van. Backpackers "fluent in English" were invited to apply.

According to the ACCC, one million door-knocking energy sales were attempted across Australia in 2011, usually by external marketing companies. It estimated at the time that Australians experienced an average of eight door knocks per year, with residents in NSW and Victoria likely to experience more than the average.

AGL and Energy Australia have shelved their door knocking campaigns.

ANDY KOLLMORGEN

The shape of things to come?

FIRST LOOK

LG's latest effort to make large screen smartphones more user friendly is to curve the screen to the shape of the face.

The LG G Flex smartphone has a massive six-inch display using a Plastic OLED (POLED) screen that has a curvature of 5mm from the middle to the edge of the screen. Although the sensation is disconcerting at first – you can actually push the phone flat on the table and it springs back to its curved shape when released. The curve does help ergonomically as it follows the shape of the hand nicely.

The LG G Flex comes with a 13MP camera (no optical image stabilisation), 32GB of memory (no removable memory), a quad core processor running on Android 4.2.2 (Jelly Bean) and support for the next Android 4.4 (Kit Kat). Most Android phone makers such as Samsung, HTC, Sony and LG love to impose their look and feel on the Android OS with their own "skin", and LG has been as bad as any other manufacturer in this regard. Thankfully, for the LG G Flex it's pretty easy to either accept the LG look and feel or change it to the way you like.

Unlike the straight-screen G2, the G Flex lacks the full HD resolution screen now common on most new smartphones. However, the 1280 x 720 (720p) screen still shows crisp sharp video, with the OLED screen delivering extremely black blacks and strongly saturated colours, which you can dial down to a more natural look.

A "self-healing" coating on the back cover helps deal with the inevitable bumps and grinds of everyday use, and a quick test with a set of keys indicate the coating is very effective at self-repairing small surface scratches. Finding a curved case for the LG G Flex might prove difficult, so the self-healing feature is even more valuable as you may find yourself carrying the phone in your pocket without any protection. Despite the curved screen, the phone is surprisingly stable when placed face up on a flat surface.

The LG G Flex grabs your attention as soon as you take it out of its curved box

Unlike most smartphones, the on/off button and volume controls are on the rear panel, just below the main camera lens. Once you get used to the new positions, the placement makes sense. The volume button also changes to become the record button when in camera/video mode, and the on/off button glows blue when you have an incoming phone/text/email message.

The large 3500mAh battery (not removable), also curved to the shape of the screen, should keep you powered up all day even when working the Flex hard. And as you would expect with a bright shiny new smartphone, there's 4G LTE support for 800/1800/2600 MHz bands, although there is no support for Telstra's new 700MHz band.

The LG G Flex doesn't support 850MHz 3G networks (Telstra, Aldi, Vodafone), which is an obvious deal-breaker for people on these networks and for anyone wanting widespread coverage in remote areas.

CHOICE verdict

The LG G Flex grabs your attention as soon as you take it out of its curved box, hold it in your curved hand and raise it to your curved face. The vivid colours and sharp images on the 720p screen prove that it's not just about the pixels, and the LG skin to the Android OS is much less imposing than other companies' efforts. If you're with Optus or another carrier offering 900MHz 3G you should give the LG G Flex a look, but don't bother if you're with Telstra, Aldi or Vodafone. **DENIS GALLAGHER**

LG G FLEX

PRICE $998 outright (Harvey Norman)

CONTACT lg.com/au/mobile-phones/lg-G-Flex-D958

★★★★☆ (if you are not on the Telstra network)

★★★★☆ (if you are on the Telstra network)

Rent tactics under scrutiny

Rent-to-buy schemes can appeal to Australians who are being priced out of the property market. Now Consumer Protection in WA is clamping down on some of the typical tactics.

Rent-to-buy schemes, also called rent-to-own schemes, target people who don't qualify for home loans – those with low income and/or who are unemployed, can't save a deposit or have a poor credit history. Buyers agree to pay rent to the seller in return for an option to buy the property at a later date.

There are many potential pitfalls for buyers who may find they lose all the money they've paid if they can't meet repayments or get finance when it comes time to transfer property ownership. They may also find the value of the home is less than the projected value that was initially agreed upon. Potential buyers may be misled into believing they're joint owners of the home, and in some cases the "vendors" don't even own the home they're "selling".

It's not just home buyers being targeted, it's also home sellers. In such cases, the rent-to-buy operator doesn't actually buy the house and acquire the title, but effectively rents it and then sub-lets to the "buyer". WA Consumer Protection has initiated court proceedings against individuals operating rent-to-buy schemes.

KARINA BRAY

IMAGES: SHUTTERSTOCK

NSW cuts taxi surcharges

The era of outrageous credit card surcharging by taxi services in NSW may be coming to an end. This follows the announcement of a series of slated reforms that include cutting the current 10% extra charge to five per cent. At the same time, the government will seek to put some safety and privacy regulation around phone taxi booking apps such as "go Catch", which have offered an alternative to high-fee services like Cabcharge.

CHOICE has long pushed for a clampdown on serial credit card surchargers like Cabcharge (winner of a much uncoveted Shonky award in 2012 for this very thing) and the major airlines.

CHOICE has always argued that surcharges should be limited to the cost to the merchant of accepting the card – less than one per cent in the case of Visa and MasterCard. Surcharges on the whole have been estimated to cost Australians about $800 million per year.

The NSW government's proposed changes, which currently lack legislative backing, follow a similar recent move in Victoria. As of 1 February, taxi surcharges in that state have been limited to five per cent. **ANDY KOLLMORGEN**

Milk price war reaches a new low

The ACCC has accepted a court enforceable undertaking from supermarket giant Coles after an investigation into shonky advertising featuring a video and cartoon called "Our Coles Brand Milk Story".

The video and cartoon were used by Coles to illustrate the impact of $1 milk on the Australian dairy suppliers. The illustration, though, wasn't exactly an honest one, according to complaints from dairy farmers organisations.

According to the "Our Coles Brand Milk Story", the farmgate milk price was meant to have increased from 86c per two litre bottle of Coles-brand milk in 2010-11 to around 90c in 2011-12. But industry figures showed the 2011-12 farmgate milk price had actually decreased to 84c.

Coles will now publish corrective advertisements. **ZOYA SHEFTALOVICH**

Whoops!

We mistakenly put both the Kfee Aldi Lumina and Expressi models into the table for Product Reliability, Coffee Machines (*CHOICE* Apr 14, page 45). These are actually the same product. Results are similar when taking into account the statistical significance tolerance.

Qantas trips up frequent flyers

Qantas has announced changes to its Frequent Flyer program that will mean members earn points based on how much they pay for their airfare rather than how far they fly.

The overhaul, coming into effect on 1 July this year, will reduce the amount of points earned on cheaper fares, while customers will earn more points for flexible and premium fares (the more expensive ones). It's a shift away from rewarding customers for being "frequent flyers" and instead a push to encourage them to pay more money to fly.

Qantas has said the changes are about "creating a fairer, more simplified program", as it aligns points with how much you spend. Points earned will also be affected by where you fly and which airline you fly with.

The changes will affect both Jetstar and Qantas customers.

JEMMA CASTLE

Homeopathy 'not effective'

A survey by the National Health and Medical Research Council (NHMRC) has found that there is no reliable evidence that homeopathy is effective for treating a range of clinical conditions.

The NHMRC Draft Information Paper on the Evidence on the Effectiveness for Treating Health Conditions of Homeopathy was undertaken over several years. It is the summary of a rigorous assessment into the available research on the effectiveness of homeopathy for treating 68 health conditions.

Critics of homeopathy have welcomed the report, noting that Australia is the latest of many countries whose governments have determined it to be an ineffective treatment.

"If homeopathy actually did work," pointed out professor Rob Morrison from Flinders University, "the well-established, scientifically validated principles of chemistry, physics, physiology and pharmacology must all be wrong".

In light of the report, professor John Dwyer, president of Friends of Science in Medicine, has called for an end to measures that give homeopathy credibility it doesn't deserve, claiming it could lead to savings of $8m annually in health care expenditure.

"Homeopathic preparations should not be available in our pharmacies, no private health insurer should provide any rebate for homeopathy and those few universities that lower our scientific standards by providing credibility for homeopathy in their health courses should cease doing so immediately," he says.

KARINA BRAY

Apple's apps go up

You have to reach deeper into your virtual wallet for iPhone and iPad apps following an across-the-board price increase in Apple's App Store for Australia. Apps that cost 99c are now $1.29, effectively bringing to an end the era of the sub-$1 app. The increases see $1.99 apps rising to $2.49 (up 25%), while $2.99 apps increase to $3.79 (up 26%) and $4.49 apps rise to $4.99 (up 11%).

CHOICE has chosen to buck this price-rise trend, with issues of our digital magazines reduced from $10.49 to $9.99 in the App Store. **STEVE DUNCOMBE**

IMAGES: SHUTTERSTOCK

Dark chocolate lovers take heart in study

Researchers have uncovered why dark chocolate is good for heart health: when you eat it, the good microbes in the gut (such as lactic acid bacteria and *Bifidobacterium*) gobble up the chocolate, causing it to grow and ferment into an anti-inflammatory compound. These compounds reduce the inflammation of cardiovascular tissue, which is good for the heart and lowers the long-term risk of stroke. It's the antioxidants in the cocoa powder content of chocolate rather than the sugar or milk that give the positive effects. **JEMMA CASTLE**

Sling safety

Parents are being urged to educate themselves about the potential risks of baby slings after a study by the Queensland University of Technology (QUT) found almost one in 20 babies had been injured or narrowly avoided injury while being carried in a baby sling.

This research, as well as the deaths of three babies who suffocated while being carried in slings, has also prompted calls for a national education campaign to promote safe use.

While "baby wearing" using a sling is an increasingly popular choice for parents (and slings are often seen being worn by celebrity parents), the products available are varied and unregulated, and there's no Australian standard.

The QUT study, which surveyed almost 800 parents around Australia, found many parents were unsure of where to find credible information on the slings and how to use them safely. Dr Kirsten Vallmuur, from QUT's Centre for Accident Research and Road Safety, says that of the 95% of parents surveyed who said they used or intended to use a baby sling, the majority considered it safe to use the sling from when the baby is a newborn. "This is concerning because product safety experts don't recommend baby slings for premature or low birth weight babies," Vallmuur says.

Vallmuur also says the most common non-fatal injuries involved the baby slipping out of the sling and falling, the parent falling, or the baby being injured while being positioned or removed from the carrier. And the main safety concern is babies being placed in a C-like position that restricts their ability to breathe and could cause suffocation.

However, if used safely and correctly, there are benefits to using a sling, such as ease of breastfeeding and promoting attachment to the infant. **KATE BROWNE**

Safety tips for using baby slings

- Keep your child's face and especially nose and mouth uncovered at all times.
- Avoid letting your child curl into the "C" position where their chin touches the chest and blocks the airways.
- Use caution and seek medical advice if using baby sling carriers for premature infants, babies with a low birth weight or those who have a cold.
- Regularly check your baby to ensure they haven't slipped into the pouch (if the sling is a pouch-type), as this could cover their nose and mouth.
- Reposition your child after breastfeeding to keep the nose and mouth clear.
- Some slings may be safer options than others, such as those that carry your child in the vertical position.

FIRST LOOK

While most of us demand HD video when watching movies and 20 megapixel cameras to take photos, we seem quite happy to accept a lower quality audio format when listening to music.

Hopefully initiatives like Pure Audio will encourage us to reach out for the best possible audio experience, as we currently do for video and photos.

Pure Audio

After a break of more than a decade, the music industry has introduced another high quality audio format 'Pure Audio'. It is another attempt to convince us to embrace the music version of HD video, but unlike the doomed efforts of DVD Audio and SACD, the price of admission is relatively cheap.

Pure Audio is a music format that delivers audio only (no video) in an uncompressed format on a Blu-ray disc that can be played on any Blu-ray player, including Sony PS3 consoles. This ability to play uncompressed music covering multiple audio formats on devices you may already own makes Pure Audio a good option for music enthusiasts on a budget. Of course these discs won't transform a horrible stereo system, but it should reveal more of the music when played through a good pair of speakers or home theatre setup.

If you already own a Blu-ray player, a Pure Audio disc is approximately $30. Three different sound formats are available: PCM, Dolby True HD, and DTS-HD Master Audio, with minimum 24-bit/96kHz.

Navigation can be carried out as with a normal CD, with the track number and title shown on the player. And although there is no video on the disc, your Blu-ray player is usually connected to your TV, so you can use the menu on the TV screen to select tracks and read information on titles as you would a Blu-ray movie.

Pure Audio is a music format that delivers audio only on a Blu-ray disc

CHOICE carried out a listening panel test with the same album played on a normal CD and a Pure Audio disc with the results indicating that the Pure Audio disc was the preferred version by a margin of almost two to one.

Most of the discs also have a coupon allowing you to download the album in either a FLAC lossless format or MP3 file at 320kbps; so you can enjoy the music from the Pure Audio album on your Blu-ray player as well as on your portable music player, smartphone or home media player.

CHOICE verdict

While there is no doubt that the MP3 and CD format lacks the absolute quality to satisfy hardcore music audio enthusiasts with deep pockets, history has shown that most of us are unwilling to make that investment in SACD or DVD Audio. However, as many of us already own a Blu-ray player, giving Pure Audio a trial is a no brainer. The current catalogue of 40 titles is very low, so don't bin your CD collection just yet, but future releases have been announced. The investment isn't massive and your ears may just thank you for the experience.

DENIS GALLAGHER

PURE AUDIO
PRICE Around $30 per disc
CONTACT
www.pureaudio-bluray.com/

★★★★½

Coverage claim misleads

Optus customers who entered into a postpaid plan after 26 January and new customers who sign up until 16 May will be given the option of cancelling their plans due to a misleading advertisement, according to a ruling by the Supreme Court of Victoria.

Earlier this year, Optus ran a TV ad that the court ruled contravened the Australian Consumer Law. The ad, which ran in January and February over 24 days, was deemed to be misleading as it conveyed the impression that there was little difference between the national coverage of the Optus and Telstra mobile networks. The court ruled Optus had represented its geographic network coverage as only about 1% less than Telstra's, saying it covered 98.5% of the Australian land mass while Telstra covered 99.3%. In reality, Telstra's geographic coverage is about 30.6% while Optus' is only 12.6% of Australia. Optus' claims were in reference to the percentage of the population covered by the two networks, not geographic coverage.

Affected Optus customers will be sent a letter informing them of their right to cancel. **JEMMA CASTLE**

Calls, text and data go unused

Research released by three leading consumer organisations shows more than half of mobile phone customers on plans with an included allowance aren't using their full monthly calls, texts or data.

Australian Communications Consumer Action Network (ACCAN), CHOICE and the Consumer Action Law Centre (CALC) conducted the research, which also reveals that 15% of consumers aren't even aware of whether they used their monthly mobile phone allowance.

Meanwhile, one in five people with an included allowance found unexpected charges on their last mobile phone bill, such as late payment fees, premium service fees, or excess usage fees. Among these consumers, almost half did nothing about it.

If you have unexpected charges on your bill, contact your telco about it. You may want to ask for a refund. **MADISON CARTRIGHT**

IMAGES: SHUTTERSTOCK

Your rights to anonymity

New privacy laws have given Australians the right to remain anonymous or use a pseudonym when dealing with government agencies, private health providers and organisations with a turnover of more than $3m a year.

The reform is one of many included in the sweeping new privacy laws that came into effect in March. The laws regulate how government agencies and certain businesses handle personal information. This includes the right to "dealing anonymously or by pseudonym".

However, this right won't apply in circumstances where providing identification is required by law (for example, calling to discuss a personal account with your bank) or where it is "impractical" (ordering an item which requires you to give a delivery address).

A survey released in October 2013 by the Office of the Australian Information Commissioner showed privacy is a major concern, with 48% of us believing that online services now pose the greatest risk to privacy. Social media was one of the least trusted services, with only nine per cent saying that social media websites are trustworthy in protecting privacy.

Companies are able to harvest huge amounts of data from our various activities online.

MADISON CARTRIGHT

eBay ups commissions

In a change that will come into effect for all auctions starting after 6 May, eBay will charge commission on the total cost of a listed item, including shipping.

Under the old pricing structure, sellers paid eBay's standard 9.9% commission on the final sale price of an item – so if you were selling a pair of shoes for $100, and charging $10 on top of that for shipping, you'd be paying eBay 9.9% of $100, or $9.90. Now, the commission will be charged for the total cost of the sale, so the commission would be 9.9% of $110, or $10.89.

But it's not all bad news. To offset the increase in commission costs, eBay has announced a shipping rebate of 10% for certain 500g parcels sent via Australia Post. The rebate is being offered for express and standard 500g parcels for which labels have been created through eBay's label printing service. Once a month, eBay will credit the seller's invoice with the amount owed.

ZOYA SHEFTALOVICH

Your Say

We want to hear from you. If you've had a bad experience, been ripped off or scammed, tell us and help other CHOICE members avoid the same traps. If you've had a great response to a complaint you've taken to a manufacturer or retailer, our members want to know about that too! Letters may be edited for length and clarity.

eBay blues

I just wanted to advise you of the latest "grab" being perpetuated by eBay Australia from 6 May 2014. It's including the postage that I charge the customers of my small business with the amount that the article sold for, therefore effectively grabbing 9.9% of the total. This means it's adding 9.9% to my postal costs. So the poor customer now has to pay extra on the postage.

John Balcombe, Camden, NSW

CHOICE SAYS *We have heard about eBay's price rises (see Checkout, page 13). While the news is unfortunate for sellers, there is something of a sweetener. To offset the increase in commission costs, eBay has announced a shipping rebate of 10% for certain 500g parcels sent via Australia Post. The shipping rebate is being offered for express and standard 500g parcels for which labels have been created through eBay's label printing service. Once a month, eBay will credit the seller invoice with the amount owed.*

Financial planning and salmon in a can

It is disappointing that CHOICE continues to unfairly knock financial planning and retail superannuation funds. You harp on about "commission" payments, when in fact these payments are a tax-effective way of paying for comprehensive financial advice that is not readily provided by industry super funds. Rather than compare the returns on average industry and retail superannuation funds over the past 10 years, try comparing them over the last two or three years.

Contact us!

Email us at **yoursay@choice.com.au** or write to Your Say, CHOICE, 57 Carrington Road, Marrickville, NSW 2204.

And why do you think the average member balance in a retail super fund is so much higher than the average balance in an industry fund? If you compare the pair you might find that the difference is because retail fund investors get advice from financial planners. You must know the advertising by industry funds is similar to that pursued many years ago when the canners of white salmon guaranteed that their product would not turn pink in the can! It may be true, but does CHOICE think it is fair?

Lalor Curran, Lyons, ACT

CHOICE SAYS *We've never taken a fixed position with regard to industry versus retail funds, but we do have concerns about the financial harm done to consumers as result of the outdated commission-driven sales model.*

In the best of cases, commission payments may help ensure high-quality advice. But on the whole we think that commissions have had an undue influence on the advice process – which is to the detriment of consumers.

"Perhaps if you'd assessed the machine for the suitability of a wheelchair user, this would have been highlighted and I would have chosen another machine."

Where's the accessibility information?

I am a long-time subscriber to *CHOICE*. I've noticed that for some time you haven't included details of whether a product would be suited to someone with a disability. Having been in a wheelchair for almost nine years, I make a point of noting the suitability of a product for my ability. I'd encourage you to reintroduce this appraisal in product reviews.

I bought a Samsung front-loading washing machine based on your recommendation and had it delivered and installed, only to find out the door only opens 110°, not 180° as the old washer did. This presents a problem for me as I can't access the front of the machine. Perhaps if you'd assessed the machine for the suitability of a wheelchair user, this would have been highlighted and I would have chosen another machine. I've been in contact with Samsung, who said this is the standard for all its washers and offered me no other solution.

Geoff Thomas, Shepparton East, Vic

CHOICE SAYS *Sorry to hear of your predicament. We appreciate this makes loading and unloading difficult.*

We stopped assessing many products for accessibility about a year ago. We used to partner with NSW Independent Living Centre (ILC), who would come out and visit us to assess products we were testing. ILC is not currently in a position to send people out, but we hope to team up again in the future. As you'll know, it takes a very different kind of expert to assess for disability suitability.

We do have generic suggestions for these products, which are adapted from ILC recommendations. Log on to these links:

- *Dishwashers – choice.com.au/dishwasheraccessibility*
- *Washing machines – choice.com.au/washeraccessibility*
- *Fridges – choice.com.au/fridgeaccessibility*

Thumbs

I recently rang Joe Gomes Engineering to see if it could replace two of our broken garage remote controls. Joe said he could come out that afternoon, and sure enough he did. He replaced our remote controls and said he wouldn't charge a call-out fee as he was on his way to another job anyway. The following morning we arranged to have A1 Professional Pest Control (Gordon) come out to do a termite inspection. We also asked him to remove a wasp nest and put some bait in the ceiling for mice. Gordon arrived right on time, did a very thorough termite inspection that took almost two hours, removed the wasp nest and put bait in the ceiling. But he only charged us for the termite inspection as he told us the baiting was done as part of the termite inspection and the wasp removal wasn't difficult. Two experiences that epitomise the best of Aussie customer service culture.

Bryant & Diana Bice, McKellar, ACT

I recently discovered on my mobile phone account that I'd been charged a monthly fee over the past several years by a third-party provider (Global One) for a screen-saver service that I never requested. I contacted Global One immediately about the problem, and they promised to investigate immediately. I received my refund from them in a timely manner. What could have been a difficult situation to resolve was handled in a highly professional manner with a level of customer service that one rarely experiences these days.

Allan Bandt, Subiaco, WA

IMAGE: SHUTTERSTOCK

Mark-up madness

Why do restaurants and cafes charge so much more for wine and coffee? **Jade Pendlebury** finds out

When you're dining out at a nice restaurant, you generally accept that you're paying a premium for the atmosphere, the top-notch service (hopefully!) from the waiters and a night off from doing the dishes. But when it comes to ordering a bottle of wine that isn't any different to the one available in your local bottle shop, how hefty a mark-up is justified?

CHOICE priced a number of wines available at some of the leading online bottle shops and compared them against the price charged for the very same bottle in a restaurant. We found price hikes of up to a staggering 140% (see page 18).

Why the price hike?

Experts in the hospitality industry told CHOICE that the cost of wine in restaurants is typically marked up between 120% and 150%, confirming our findings – with some restaurants adding up to a 250% mark-up on carefully selected bottles.

Crazy coffee costs

Wine isn't the only popular beverage that's leaving many Australian customers feeling short-changed. Paying for a coffee in a cafe sometimes feels like paying for liquid gold.

Last year, a bemused patron posted his receipt for two coffees on Fed Up Perth, a Facebook page dedicated to the high cost of food and beverages in that capital. A cappuccino and a flat white, both in mugs, cost him $14.50 at a cafe in Scarborough, WA, late last year. The post was shared 495 times and generated 565 comments.

Thankfully, according to the Gilkatho Cappuccino Price Index, $7.25 is by no means the average price for a latte, though the average price a Perth resident pays for a regular coffee is almost $4. Australians forked out an average of $3.50 per cup in the first quarter of 2013, 40c more than in 2009. "Coffee bean prices are currently at a three-year low internationally, but prices for a cup are showing no sign of decline, indicating customers are more likely to pay for an experience," Gilkatho managing director Wayne Fowler said in 2013.

Be your own barista

If you fancy becoming your own barista and avoiding further price increases in coffee – not to mention the cafe queues – consider buying a coffee machine. See *CHOICE*, Feb 14 for our latest recommendations.

However, some in the industry argue that customers are paying for the entire wining and dining experience, not just the bottle itself. "Customers know they can buy a bottle of wine and sit at home and drink it. When you head out to a restaurant, you're not only paying for the wine, you are paying for the experience," says one Sydney restaurant owner who asked to remain anonymous.

Tony Eldred, industry expert and founder of Eldred Hospitality (eldtrain.com.au), says some restaurants opt for unheard-of boutique wines to make customers feel they're getting value for money. "They are very clever at buying wines from smaller boutique wineries that are of excellent quality but unknown in bottle shops.

"What they do is taste test and establish the perception of quality [of wine], and then put a retail price on it. Essentially, they try and get as much as they can get for the wines."

Our anonymous Sydney restaurant owner argues eateries veer towards boutique wines not because they're unheard of, but because they offer more variety to the clientele. "Wine lists – particularly those composed by sommeliers – also need to reflect the food being served and the mood of the restaurant," he says. "Boutique wine vendors tend to offer palatable and complex drops that fit this purpose."

So what are you paying for?

John Hart, CEO of the industry association Restaurant and Catering Australia, argues restaurants aren't gouging customers with their wine mark-ups – they simply need to make a profit where they can to stay afloat.

A 2013 report by *The Age* found that due to an explosion in the number of restaurants in our capital cities in the past 20 years, Melbourne and Sydney in particular are currently 30% oversupplied with restaurants. While healthy competition keeps the cost of food down,

GO BYO

Bringing your own bottle to a restaurant is usually your most cost-effective option (see page 18), although fine-dining restaurants are unlikely to let you do this unless it's a special bottle of wine. "And they'll still put a $20 corkage on it because they have to handle it and decant it and wash the glasses," says Eldred.

Websites such as Eatability (eatability.com.au) and Urbanspoon (urbanspoon.com) allow users to filter by the term "BYO" and find restaurants that provide BYO options. But be sure you call the restaurant beforehand to check the price of corkage. Many restaurants charge per person – so for a large group of people, that $15 bottle of wine suddenly may not be such value for money.

IMAGE: SHUTTERSTOCK

Coffee bean prices are at a three-year low internationally, but prices for a cup are showing no sign of decline

In February this year, coffee beans had their biggest jump in prices since 2000 following a dry season in Brazil. But even before this hike, economists predicted that coffee will rise to $4 per cup in the next few years. This is because the cost of the actual beans component of your coffee is only around 25c per cup, with the remaining costs attributed to milk and sugar, the container, the skill of your barista and – like wine in restaurants – the service, rent and wages of staff.

But it seems Australians are happy to pay for barista coffee. The BIS Shrapnel 2013 Coffee & Beverages – Annual Tracking Study says cafe culture is here to stay, with coffee overtaking tea as Ausralia's number one preferred hot beverage.

Barista judge Rob Forsyth from Forsyth Coffee told CHOICE that compared with other countries coffee prices in Australia are at the lower end, yet coffee is far superior in quality. "Last year we had 60-odd nations competing in the world barista championships in Melbourne. About 150 judges come in, and they could not believe the quality of the cup of coffee in Australia and the value it represented."

which is good news for consumers, restaurateurs rely on their wine lists to compensate for infrequent customers with a wealth of choice.

"Restaurants are all commercial operations, and of course they aim to make a profit," says Hart. "On average, they make 3.6% profit, so clearly there is not a huge mark-up that is flowing to the bottom line – on wine or anything else."

Hart also argues consumers should keep in mind that when buying a bottle of wine in a restaurant, you're not just buying the wine, but the *served* wine. The costs associated with served wine include delicate glassware, the décor, storing, decanting and serving the wine and washing your glasses. Increasing running costs such as rents and wages will also be reflected in the prices charged.

"Up to 50% of all revenues earned in restaurants are spent on wages," says Hart. "The predominant cost is therefore the service, not the cost price of the food or beverage." ■

Get smart

If you're looking for value for money when dining out, steer away from wines from the mid-range of the list, as these have the biggest margins added (as it's where most people select from).

Hospitality expert Tony Eldred suggests asking for advice and a recommendation from the waiter or sommelier. "If you're going to an upmarket [restaurant] then ask for advice, and the sommelier will give it to you – that's what they are there for. I often say 'I want something for under $60', and they'll generally give good advice."

How much more are you paying?

Craggy Range Te Muna Road Sauvignon Blanc 2012

Kooyong Beurrot Pinot Gris 2011

Shaw and Smith Sauvignon Blanc 2013

Ducks In A Row Nero d'Avola 2011

TAKE A SNEAK PEEK

at the new CHOICE website

Let us know what you think

We would love to hear your feedback – please take the time to complete our optional survey.

The new CHOICE website officially launches later in 2014, but this month we're pre-releasing an "in development" or beta version of the popular Home and Living section of the website.

To take a sneak peek, visit **choice.com.au/sneakpeek**

choice
CHOICE.COM.AU

Pot luck

When it comes to yoghurts there is a mind-boggling array of varieties to choose from. **Miranda Herron** explains how you can make the most nutritious choice

Yoghurt is often marketed as a healthy, calcium-rich product. Yet some of the products in the supermarket fridge are closer to a "dairy-based dessert" than a health food. CHOICE decided to look behind the hype and find out how to pick the nutritious yoghurts from the products that should ring alarm bells.

At its simplest, yoghurt contains milk and live cultures (bacteria) that cause the milk to ferment, creating the distinctive sour taste. But modern commercial yoghurts tend to have extra ingredients such as sugar, cream, thickeners, gums, starches and flavours.

"The healthiest yoghurt choice is low- or no-fat plain yoghurt," says Kate Gudorf an accredited practising dietitian and spokesperson for the Dietitians Association of Australia. "But if you need to sweeten it yourself, add a teaspoon of honey or chopped fresh fruit."

If you're buying flavoured yoghurt, Gudorf recommends trying to find one with less than 12g of sugars per 100g. Natural or plain yoghurt has around 6mg of sugars per 100g due to the naturally occurring carbohydrate lactose. Anything above 6mg will be added sugar, generally in the form of fruit pieces, fruit puree, honey and sugar.

Look for a flavoured yoghurt with less than 12g of sugars per 100g

And if you're in the mood for a treat, sweetened low-fat yoghurts will generally be a better choice than a chocolate bar as they have lower saturated fat (0.2g vs 18.8g/100g) and far less sugar (12.6g vs 56.4g/100g).

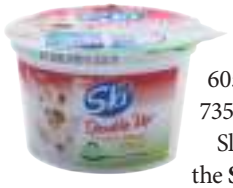
Beware breakfast yoghurts

Packaged breakfast yoghurt pots with muesli are an easy option, but the convenience can come at the cost of huge sugar levels.

Bulla Yoghurt Crunch Summer Berry contains yoghurt and muesli, and comes with a little spoon so it can be eaten on the go. The pack only lists the nutritional information per 100g serve – a deceptively low 594kJ – but the small print shows there are actually 2.25 serves in the pot. If you can be bothered doing the numbers in the supermarket, you'd find that the 225g pot

actually has a hefty 1339kJ and 42g of sugars (more than eight teaspoons). And really, who's going to divide a pot smaller than a metric cup into 2.25 serves?

The whole Bulla pot has about the same number of kilojoules as an Almond Magnum ice-cream, but three more teaspoons of sugar. However, it does at least come with 455mg calcium.



That said, two cups of skim milk will give you 605mg calcium for only 735kJ and 25g sugars.

Slightly less sugar laden is the **Ski Double Up** yoghurt, with 983kJ and 25.6g sugar per pot. **Vaalia Breakfast To Go** is a marginally better choice with 825kJ and 20g sugar per pot. Both sensibly treat one pot as one serve.

Going coconuts

The passion for all things coconut (see *CHOICE*, Mar 14) has spread to the yoghurt aisle with **Alpine Coconut Yoghurt.** Just like coconut oil, coconut milk yoghurt is a high-kilojoule, high-fat, low-calcium choice. Compared to full-fat milk-based yoghurts it has double the kilojoules, with 785kJ per 100g and a whopping 11.5g

Coconut milk yoghurt is a high-kilojoule, high-fat, low-calcium choice

of saturated fat – three times more than the full-fat yoghurt we looked at. Coconut milk has about 4mg calcium per 100g (compared with 193mg for regular yoghurt), and there's no calcium listed on the package so we assume no extra calcium has been added.

Serving size

The Australian Guide to Healthy Eating says a serve of yoghurt is ¾ cup or 200g.

Calcium is a major health drawcard for yoghurt, but we found wide variations in calcium levels – from 98mg to 206mg per 100g

If you want a yoghurt to eat on the go, look for a pot that is 200g or less. Buying an individual serve pot as big as the 300g **Gippsland Blueberry Twist** will mean you'll be scoffing down 50.7g sugars (10 teaspoons) and 1833kJ. Look for a between-meals snack with no more than 600kJ.

Calcium content

Calcium is a major health drawcard, but we found wide variations in calcium levels – from about 98mg per 100g (**Chobani**) to 206mg (**Bornhoffen**). "This comes down to the difference in processing methods," says Gudorf, "as some manufacturers add extra milk solids, which add calcium. Others, such as strained Greek yoghurt, remove liquid whey, which reduces calcium levels." ▸

IMAGES: THINKSTOCK

Although yoghurts can be a good source of calcium, it's unlikely to meet your total daily requirement. It's recommended that adults consume 1000-1300mg daily. For children, the recommendations are:

- 1-3 years: 500mg calcium;
- 4-8 years: 700mg;
- 9-11 years: 1000mg.

Although the "squeezy" yoghurt pouches for babies and kids are all the rage and look very similar in size and design with similar sugar levels, there is a big difference in calcium levels. **Mini Macro Organic** yoghurts don't even list calcium content on their pack. Other products range from 132mg per 100g (**Gippsland**

DO 'FRIENDLY BACTERIA' IN YOGHURT REALLY WORK?

Probiotics are "friendly" bacteria that can help restore the balance of microflora in the gut if it's been upset by disease, stress, poor diet or antibiotics. In a healthy bowel, these bacteria fend off harmful microorganisms, aid digestion and nutrient absorption, and contribute to immune function.

Evidence of the benefits of probiotics in yoghurt has been difficult to validate scientifically. In the EU, use of the word "probiotics" has been banned on packaging as the word implies a health benefit, although individual strains of bacteria may be mentioned. In 2008, a class-action lawsuit in the US claimed Danone overstated the health benefits of its Activia yoghurt by claiming it could strengthen the body's defences or regulate digestion because of bacteria it contained. Danone settled out of court for $US35m and changed the wording on its packaging.

To avoid falling foul of health claim regulations and still spruik the benefits of probiotics, food companies use vague, pseudo scientific-sounding language and fancy trademarked names such Danone's "Bifidus ActiRegularis" (its scientific name is actually B. lactis DN-173010). The packaging claims its bacteria "can help to improve digestive discomfort such as a bloated feeling" and is accompanied by a funny little diagram. But this health benefit is conditional on eating 250g of the yoghurt each day over four weeks as "part of a varied diet and health lifestyle".

Evidence of the benefits of probiotics in yoghurt has been difficult to validate

"The trouble with probiotics is there are many factors that affect whether the bacteria survives," says Gudorf. "For those products that do list the number of probiotic cultures on the packaging, that number reflects the amount of bacteria added at the time of production, but bacteria can be affected by storage, air, light and moisture and there is no guarantee that the bacteria survives in the yoghurt to colonise the gut."

If conditions are right and the bacteria survives, you'd need to eat 100 million colony-forming units (CFU) regularly every day to increase the activity of good bacteria. And, says Gudorf, probiotics by themselves are not enough to increase the activity of good bacteria. You should also eat 10g per day of prebiotics, which are non-digestible carbohydrates that act as food for the good bacteria.

"Don't eat yoghurt just to get probiotics," advises Gudorf. "If you're concerned about IBS [irritable bowel syndrome] or bloating see a dietitian who specialises in gut health who can set up a diet plan and direct you to the correct bacteria strain."

To get the best chance of probiotic benefits, look for yoghurts that have at least 100 million CFUs. Some yoghurts mention the names of the cultures but don't list how much it contains, so you have no idea how much – or how little – bacteria is in the product.

IMAGES: SHUTTERSTOCK AND THINKSTOCK

Mini Organics), 168mg (**Paul's Dora**) and 220mg (**Coles**) to a healthy 350mg for the **Yoplait Petit Miam** pouch.

Pester-power desserts

Be aware when choosing kids yoghurt that sugary dessert products can be mixed on the shelves with healthier offerings. We found **YoGo Mix Choc Chips**, which doesn't contain any yoghurt but has 1090kJ and 29.9g sugar per 150g pot, in the same section as the 140g **Vaalia Kids Strawberry Yoghurt** (515kJ/15.5g sugars).

As most products aimed at kids have classic pester-power characteristics – bright packaging splashed with recognisable cartoon characters or cutesy images – it's very easy for any harried parent to grab a package your child likes the look of without checking the ingredients and sugar levels. A product that has the word "dessert" on the packaging should ring alarm bells.

> Taking out the fat means a loss of creaminess and texture, which in turn means manufacturers may add in thickeners to recreate a satisfying consistency

No fat, no sugar

These yoghurts are generally artificially sweetened and have lower kilojoule levels. But taking out the fat means a loss of creaminess and texture, which in turn means manufacturers may add in thickeners to recreate a satisfying consistency. ■

BEGINNER'S GUIDE TO YOGHURT

GREEK YOGHURT is traditionally made by straining out the liquid whey, leaving the yoghurt thick and creamy. Its association with the Mediterranean diet tends to give Greek yoghurt a healthy image. And while some brands can have higher protein, it can also have higher saturated fat (up to 7g compared with around 4g for plain yoghurt), which helps make it thick and creamy. The removal of the whey also means Greek yoghurt often has lower calcium levels. Some brands also add cream, though this is not a traditional ingredient. Although yoghurts must conform to food standards pertaining to claims like "low fat", there are no regulations in Australia specifying that a particular style of yoghurt, such as Greek, has to be made in a certain way or contain particular ingredients.

NATURAL OR PLAIN YOGHURT is simply yoghurt without flavouring or added sugar.

GREEK-STYLE YOGHURTS aren't strained and often contain thickeners, which are added to create texture such as cream, milk solids, gelatine and gums.

POT SET means that milk and live cultures are added straight to the pot, which, makers claim, means thickeners such as gelatine need not be added.

LEBEN-STYLE is made in a big vat and stirred before being added to the pot.

LACTOSE-FREE YOGHURT is made by adding an enzyme during processing that breaks down the lactose into simple sugars, so it's safe for those who are intolerant to lactose.

POURING YOGHURT OR YOGHURT MILK has the same ingredients as thick yoghurt but is thinner and designed to be poured over cereal or drunk by itself.

KEFIR YOGHURT is traditionally made by adding fermented kefir grains to room-temperature milk. Commercial powdered kefir starters are often used these days.

BIODYNAMIC is an ethical–ecological approach to agriculture that emphasises the relationship of soil, plants and animals. Like organic, it emphasises sustainability and does not involve chemicals in production.

KNOW YOUR NUMBERS

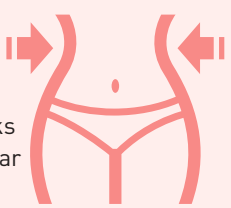
There are lots of numbers used to describe your health. Knowing them – and whether they need to go up or down – may save your life, says **Karina Bray**

Prevention is the best medicine, and a key part of prevention includes keeping tabs on key indicators of your health – weight, blood pressure, cholesterol levels and so on. Some you can measure yourself, while for others you'll need some help from your doctor. But what do the numbers actually mean? Which are useful and which are misleading?

DIY MEASURES

Waist circumference

Waist circumference is a measure of your abdominal fat. Carrying fat around your abdomen ("apple" shape), regardless of your body size, could be a sign you have an increased risk of diseases such as heart disease and type 2 diabetes. Having fat predominantly deposited around the hips and buttocks ("pear" shape) doesn't appear to have the same risk.



CHECKED BY YOUR DOCTOR

BMI

Body mass index (BMI) is a measure of your weight relative to your height. It gives an approximate measure of your total body fat and indicates whether you're overweight or obese. If you are, it's a risk factor for other diseases and conditions such as diabetes, heart disease, hypertension, osteoarthritis and some cancers.

But BMI does have its limitations:

- It may overestimate body fat in pregnant women, athletes and others who have a muscular build.
- It may underestimate body fat in the elderly and others who have lost muscle mass.
- It can be misleading in children as body fat changes as they grow, and girls and boys also differ in their body fat as they mature.
- For some ethnic groups, the cut-offs for being overweight and obese are different. They're lower for Chinese, Indian and Malaysian people, for example, but higher for Maori and Pacific Islanders.

Aim for: 18.5-24.9. Less than 18.5 is underweight, 25-29.9 is overweight and 30 or higher is considered obese.

When should I check it?

Right now. Divide your weight (in kilograms) by your height (in metres) squared. A person who's 1.65m (165cm) tall and weighs 60kg, for example, has a BMI of 60 ÷ (1.65 x 1.65) = 22, which is within the normal range.

What about body fat percentage?

Two people with the same height and weight will have the same BMI, yet could have different amounts of body fat. At the same time, there are certain agreed levels of body fat that are considered optimal, depending on age and gender. So, it would seem body fat may be a better measure of health than BMI or waist circumference.

However, there's not a lot of data suggesting that body fat measures provide better information about health risk than other measures. It's also much harder to get an accurate result without specialist equipment. So until more definitive research exists, BMI and waist circumference will work for most people.

Aim for:

- Less than 80cm (women)
- Less than 94cm (men; 90cm for those of South Asian, Chinese or Japanese descent)

When should I check it?

As often as you like. Measure while standing up with your stomach relaxed, after exhaling. Place the measuring tape at the midpoint between the end of the ribcage and the top of the hip bone.

Blood pressure

Blood pressure is the force of the blood pushing against the walls of the arteries as your heart pumps it round your body. It's always given as two numbers:

- The top number, **systolic pressure**, indicates the pressure in the arteries when the heart beats, pumping blood.
- The bottom number, **diastolic pressure**, represents the pressure as the heart relaxes between beats.

Untreated high blood pressure, or hypertension, can contribute to atherosclerosis, a hardening of the arteries and a build-up of fatty deposits called plaque. This in turn can lead to cardiovascular disease, heart attack and stroke.

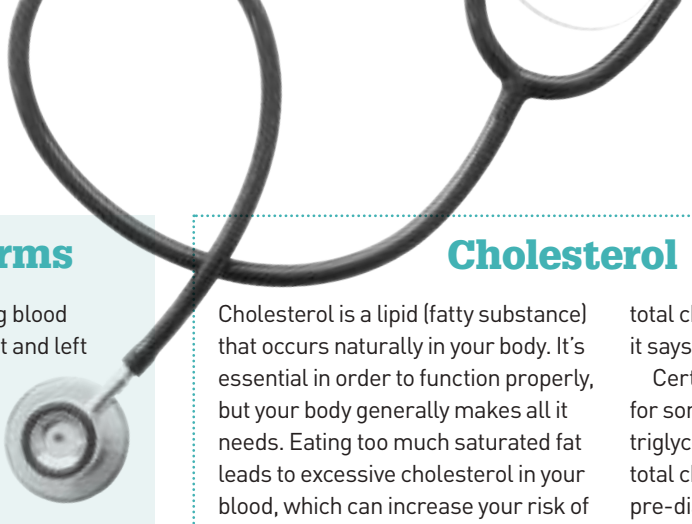
Hypertension is sometimes called the silent killer because it usually has no symptoms – you can have high blood pressure and feel perfectly well.

Smoking, physical inactivity, overweight/obesity, poor nutrition and excessive alcohol consumption can all increase your risk of hypertension. Lifestyle changes can successfully control high blood pressure in many cases, especially if addressed in the early stages.

Aim for: Less than 120/80 mmHg. In general, lower is better, although very low blood pressure can sometimes be a cause for concern and should be checked by a doctor.

When should I check it?

Every two years from age 18 if it's "normal"– more frequently if you have a personal or family history of hypertension, stroke or heart attack.



Different arms

A difference of 5mm Hg blood pressure between right and left arms is normal. But a repeatedly measured difference in systolic blood pressure of more than 10mm Hg between left and right arms can indicate increased risk of future cardiovascular disease.

A difference of more than 20mm Hg for systolic or 10mm Hg diastolic can indicate blocked arteries in one arm, and could be a sign of peripheral artery disease. Other potential problems indicated by large blood pressure differences between arms include kidney disease, diabetes and heart defects.

It's good practice for your doctor to measure both arms to find which has higher pressure, and use that as the basis for treatment and the benchmark for assessing changes.

Aim for:

Less than 10mm Hg difference in systolic blood pressure between right and left arms.

When should I check it?

Whenever your blood pressure is measured.

Cholesterol

Cholesterol is a lipid (fatty substance) that occurs naturally in your body. It's essential in order to function properly, but your body generally makes all it needs. Eating too much saturated fat leads to excessive cholesterol in your blood, which can increase your risk of heart disease and stroke. Smoking, being overweight and hypertension are also risk factors for high cholesterol.

Cholesterol is transported in the blood by carriers called lipoproteins, of which there are two main types:

- **Low-density lipoprotein** (LDL), usually referred to as "bad" cholesterol because it can clog up your arteries, and
- **High-density lipoprotein** (HDL), known as "good" cholesterol because it helps take cholesterol out of the bloodstream.

The lipid profile from a fasting blood test gives you a breakdown of total cholesterol, HDL, LDL and triglycerides (another form of fat) in your blood. A finger-prick cholesterol test, such as the type offered in some chemists, gives you total cholesterol only. These aren't as accurate as a fasting blood test; if one finds your total cholesterol is OK it probably is; if it says it's too high, have a proper test.

Certain lipid ratios are risk factors for some conditions. Having high triglycerides and low HDL and/or high total cholesterol is a risk factor for pre-diabetes, for example, so it's useful to know all the numbers.

Aim for

- Total cholesterol: below 4 mmol/L
- LDL: below 2 mmol/L
- HDL: above 1 mmol/L
- Triglyceride: below 1.5 mmol/L

The target levels may be more lenient if you're not in a high-risk group. But in general, any lowering of total and LDL cholesterol levels and raising of HDL cholesterol can be beneficial. Sometimes the ratio of total cholesterol to HDL is a better indicator of atherosclerosis risk. So if your total cholesterol is 5.1 and your HDL is 1.4, your ratio is 3.6. Aim for a ratio lower than 5 – around 3.5 is ideal. However, absolute numbers are a better guide for treatment.

When should I check it?

Every five years from age 45; more frequently if you're at moderate or high risk for cardiovascular disease. ■

Blood glucose

Levels of glucose in your blood are controlled by insulin, and when your body's insulin isn't working effectively this can result in low (hypoglycaemia) or high blood glucose (hyperglycaemia).

Chronic hypoglycaemia can lead to brain and nerve damage. Chronic hyperglycaemia indicates diabetes, which, if left untreated, can cause progressive damage to organs such as the kidneys, eyes, heart and nerves.

Almost one in four adults over the age of 25 has either diabetes or a condition known as pre-diabetes (impaired glucose metabolism). People with pre-diabetes are more likely to get type 2 diabetes and are at risk of heart disease. If caught in the pre-diabetes stage, lifestyle changes can reduce the likelihood of progressing to full-blown type 2 diabetes.

A fasting blood glucose test can determine if your blood glucose level is within a healthy range.

Aim for: 3.0 to 5.4 mmol/L.

When should I check it?

The Royal Australian College of General Practitioners recommends screening for diabetes using the AUSDRISK screening tool (letspreventdiabetes.org.au/take-the-test) every three years from age 40. Start at 18 if you're Aboriginal or Torres Strait Islander. A blood glucose test is recommended for those determined by AUSDRISK to be at higher risk of diabetes or with other high-risk medical conditions, such as polycystic ovary syndrome or a previous cardiovascular event (stroke or heart attack), with regular blood tests thereafter.

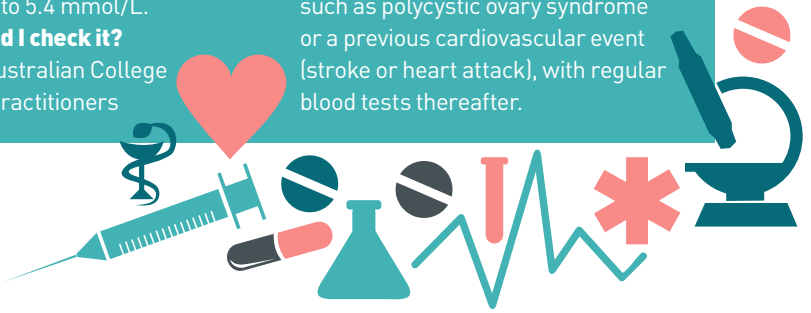


IMAGE: SHUTTERSTOCK

Nutshell

- Password managers remember all your passwords for you, so you only have to remember one master password to log into secure websites.
- Guard your master password. If you forget it, you'll lose access to all your secure logins.

The good word

Got too many log-ins to remember? **Ros Page** scraps the sticky notes and tries out a password manager

Every day, more services are going online. This makes life easier for many of us, but it does bring with it the hassle of remembering all those passwords.

A password manager could be the answer. It stores all your logins so you don't have to remember if you used your pet's name or your child's birthdate to log in to that website. Most integrate with a web browser for easy access and have companion apps for tablets and smartphones.

A password manager can't protect an infected computer, so you still need to use a security suite to protect against threats such as keyloggers and malware that can be used to capture keystrokes for passwords and log-ins.

Cracking the code

There's a lot invested in your password program, so you want to know it's secure. The advanced encryption standard (AES) is used by all programs on test. AES encryption uses a key, which is a series of numbers, to convert the original message using the pattern from the key. In this way, AES 128-bit encryption uses a string of 128 bits to convert the text, and similarly AES 256-bit uses a key of 256 bits for the algorithm. The AES was established by the National Institute of Standards and Technology in the US.

THE 10 WORST PASSWORDS OF 2013

1. 123456
2. password
3. 12345678
4. qwerty
5. abc123
6. 123456789
7. 111111
8. 1234567
9. iloveyou
10. adobe123

WHAT TO BUY (DESKTOP)

85%
RoboForm
Good points
- In-app browser on mobile app

Bad points
- None to mention

81%
Sticky Password
Good points
- In-app browser on mobile app

Bad points
- None to mention

80%
1Password
Good points
- Local / Wi-Fi sync option
- In-app browser on mobile app
- Security warning for duplicated passwords

Bad points
- Android app only reads the secure data, no add or modification possible
- No portable USB version

75%
LastPass
Good points
- Master password recovery
- In-app browser on mobile app
- Free desktop app

Bad points
- None to mention

KEYCHAIN

Apple's password manager, Keychain for iCloud, stores account names, passwords and credit card numbers, and generates passwords when used on a Mac desktop or laptop.

HARD TO CRACK?

How long does it take for a specially built computer to crack a password? A few extra characters can make a big difference to password security.

6 characters = 2 seconds

8 characters = 5.5 hours

10 characters = 5.4 years

12 characters = 48 millennia

20 characters = 324 billion billion years

How we test

We download and install the six applications on test on a desktop (Windows) computer and also install the mobile version on both an Android tablet and an iPad. The main focus of the test is the ease of use of the applications.

All applications are installed and evaluated separately. We look at how easy it is to do the initial set-up, any available help information and how it organises and stores login details. We also look at how easy it is to log in to Gmail, Facebook, Choice and gaming site Steam.

We rate security options such as encryption, master password recovery, whether data can be exported and if there's a virtual keyboard for secure login.

What to look for

Online / cloud sync keeps data up to date using the cloud.
Local / Wi-Fi sync data synchronises between the devices connected to the same local network. Data is stored on local network, not in cloud.
Master Password Recovery Forgotten password can be recovered to access the application.
On Screen / Virtual keyboard to secure against keylogger applications.
In-app browser mobile application has its own browser.
Password generator can create a secure random key.
Security alerts notify for an already used password and indicate strength of password.
Web access without installing on computer.
Portable USB version can be used on desktops (Win) without installing.

Security tips

- **Don't store sensitive login details in browsers** because they can be accessed on the computer.
- **Don't write passwords on notes** or where they can be easily found.
- **Use long (at least eight-character) passwords** that consist of letters, numbers and symbols.
- **Never re-use the same password**. If it's compromised it can give access to many of your logins.
- **Use a VPN program** if you need to use public computers or public Wi-Fi for sensitive transactions via the web.
- Go to **staysmartonline.gov.au** for more information on passwords and online safety. ■

		SCORES			FEATURES										OPERATING SYSTEM					SUPPORTED BROWSERS BY PLUGIN					
	Price (US$)	Desktop (%)	Android (%)	iOS (%)	Online / cloud sync	Local / Wi-Fi sync	Master password recovery	Secure notes	On-screen / virtual keyboard	In-app browser	Password generator	Security warnings	Web access without plugin	Portable USB version	Win	OS X	Linux	Android	iOS	Chrome	Firefox	IE	Safari	Opera	Website
RoboForm	20pa (A)	85	70	83	✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	roboform.com
Sticky Password	20pa (B)	81	74	75	✓			✓	✓	✓	✓			✓	✓			✓	✓	✓	✓	✓		✓	stickypassword.com
1Password	49 (C)	80	62	84	✓	✓		✓	✓	✓	✓		✓ (H)		✓	✓		✓	✓	✓	✓	✓	✓	✓	agilebits.com/password
LastPass	Free (D)	75	68	85	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	lastpass.com
KeePass	Free	64	60	62	✓			✓	✓ (G)		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	keepass.info
SplashID	20pa (E)	60	76	71	✓	✓	(F)	✓		✓	✓		✓	✓	✓	✓		✓	✓	(I)		✓	✓		splashid.com/personal

USING THE TABLE Price paid in December 2013 ($US). **Scores** are ranked by desktop version. No overall score is given because mobile versions are unlikely to be combined. **Ease of use** for desktop and mobile version comprises website login (60%) made up of email site (Gmail), social media (Facebook) and secured login site (choice.com.au) gaming site Steam, initial set-up (10%), help information (10%), data handling (adding new site/account, categorisation) (10%), and security options (10%). **TABLE NOTES (A)** Desktop licence (Win, Mac) one-time fee US$30 and covers one PC no sync. **(B)** Sticky Password (online sync) including Windows, iOS, Android costs US$20 annually. Sticky Password Desktop (offline) costs US$30 one-time fee covers one PC without sync. **(C)** One-off fee. **(D)** Desktop version is free; premium version costs $12 annually, which offers mobile apps and more multifactor authentication options. **(E)** Desktop app: no sync US$10 (one-off fee); Wi-Fi sync US$30 (one-off fee); cloud sync US$20 annually or US$2 monthly; Android App: free; iOS App AU$21. **(F)** Sending password hint to the email address can be requested. **(G)** Plugin available for on-screen keyboard. **(H)** Requires access to a Dropbox account. **(I)** No extension (plugin). The provided Chrome app is just a link to the website.

IMAGE: SHUTTERSTOCK

Cut from a different cloth?

Australians are paying more for our clothes than shoppers overseas. **Zoya Sheftalovich** uncovers the ways you can avoid being geo-blocked (again)

Amid the political upheaval currently at play in eastern Europe, a different kind of oppression is shaking Russia's fashion world: a ban on lacy underwear. Starting 1 July this year, underwear containing less than six per cent cotton will reportedly be barred from being exported into, made, or sold in Russia, Belarus and Kazakhstan. The bottom line: Victoria's Secret is out, sensible undies are in. Cue panty riot jokes.

So could the Russians enforce the ban online? And why are we even talking about this?

It's all about geo-blocking. Geo-blocking prevents shoppers from accessing clothing overseas through internet service provider (ISP) restrictions. It's how the eastern bloc may attempt to stem the flow of lacy underwear. Closer to home, it's also how Australian consumers are being barred from buying cheaper clothing from overseas retailers.

Going 'round the block

Australians have been paying more for products than our counterparts overseas for years. From clothing to cosmetics, software to hardware, we've been slugged with the "Australia tax". But in recent years, international retail has opened up to Australians via the internet. Now with a few clicks, we can see just how much more we're being asked to pay.

Aussies are often charged hefty mark-ups on clothing that can be bought for much less elsewhere

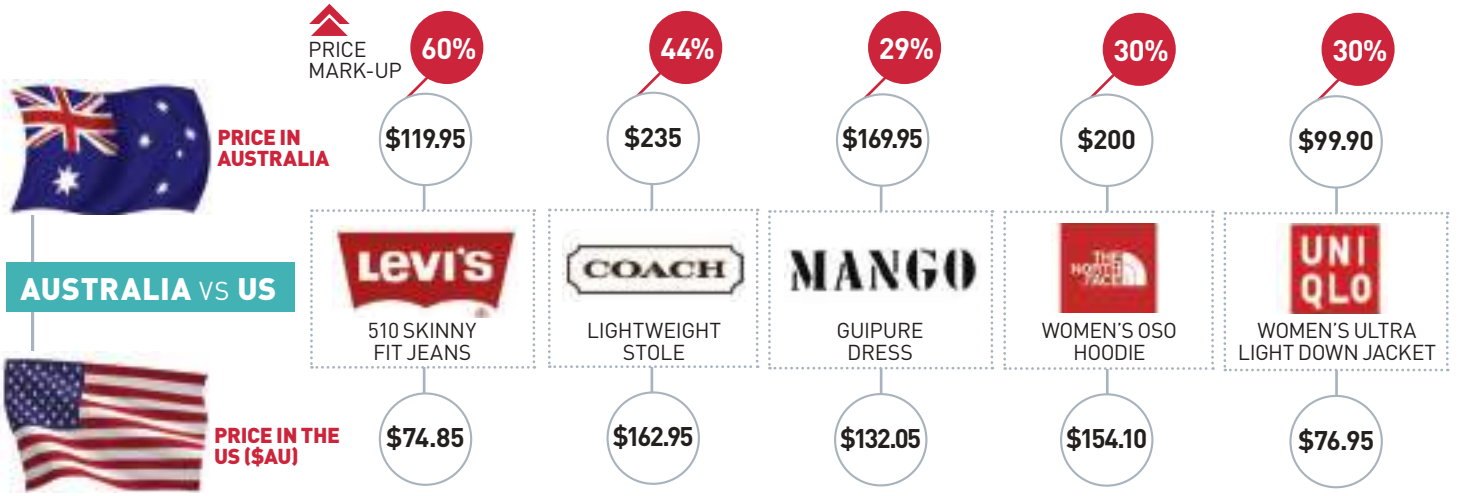
But as enterprising overseas retailers have been taking advantage of Australians' buying power and started selling directly to us, manufacturers and distributors have wised up and are working to prevent Australians from getting a better deal.

Geo-blocking is a common experience for Australian consumers, who are often charged hefty mark-ups on identical products that can be bought for much less in other parts of the world. The most frustrating issue is that the price is often right with online retailers until you reach the checkout, only to be thwarted at the last step with a message saying that shipping to Australia is impossible.

When we asked consumers to dob in companies from which they'd had trouble buying products, two culprits commonly cited were ASOS and Amazon.

We asked ASOS why some things aren't available to Australians. A spokesperson said: "We ... endeavor to offer our global customers the biggest product offering ... [but] it is at the brand's discretion to decide what markets they are available to on ASOS. This is often due to other existing partnerships they may have in those territories and their global strategies."

Amazon didn't respond to our requests for comment.



How much more are we paying?

There are plenty of examples of clothing that costs more for Australians than it does overseas. The examples we looked at (see above) were significantly cheaper in the US than they were here. Levi's jeans were the worst culprit, with Australian consumers paying 60% more than our northern friends for our 510s.

YOUR SAY

When we asked consumers how they felt about clothing geo-blocking, we found they were frustrated by the lack of forewarning about blocked brands.

Ben said: "Amazon in general is terrible about not shipping to Australia. I was trying to buy shoes recently, but they [wouldn't post them to Australia]."

Paula told us: "I've found stores that ship to Australia but charge more for their clothes than if I was buying in the US. So using services like US.com (see right) means you don't get ripped off and can have anything shipped to you."

AVOIDING GEO-BLOCKS

Prior to the current online boom, it had been difficult – and sometimes impossible – to shop in the US from the other side of the planet. But things have changed – for the better.

Virtually private

Some sites automatically redirect Australian consumers to their local sites, making it difficult for you to look at the cheaper prices on offer to overseas consumers. But there are some ways of getting around this.

As a client connecting to a virtual private network (VPN) server that's in the same country as the site you're attempting to access, you can check out the prices companies charge their local consumers. In cases where companies don't require a local credit card number and address, you can order directly from them using a VPN. In cases where they do, you can use the site to get an idea of the price being charged, then use a third-party delivery service to get the item to Australia.

There are plenty of free and paid VPN service providers available online. Popular options include Hola, TorVPN, LogMeIn Hamachi, Hotspot Shield, HMA, IPVanish and Overplay. The alternative to using a VPN is to adopt a US-based Domain Name System (DNS) server, such as unblock-us.com, for about $5 per month. Rerouting your internet connection through a DNS server – a simple configuration in your computer's network preferences – can trick the site you're attempting to access into believing you are in fact elsewhere.

Third-party delivery

Third-party delivery services, like MyUS.com and Australian-based company Price USA, remove physical shipping barriers, opening up new shopping opportunities for Australians. How do they work? Basically, you buy the product, enter the warehouse address of the parcel-forwarding service, and they redirect the mail to your Australian address. Some let you bundle your parcels into one package, meaning you can save on shipping by combining a few purchases in one batch.

Some companies, such as Price USA, actually buy the product on your behalf. But beware: some of the forwarding services won't estimate your shipping costs until after you've purchased the product, so your savings could be substantially reduced once postage is factored in. ■

IMAGE: SHUTTERSTOCK

Best to divest?

If you've invested in fossil fuel assets, your portfolio could be in peril. **Andy Kollmorgen** explains why you should think about ditching them

Why not help reverse the tide of global warming and protect your investments at the same time? That's the question posed by progressive think tank the Australia Institute in a new report that calls for a re-think on future returns.

The report, which was prepared in partnership with 350.org and Market Forces, argues now is the time to start ridding your investment portfolio of fossil fuel assets. Why? Because the carbon-emitting companies and their financial backers are bound to see their share prices drop when they're eventually forced to comply with tougher emissions standards and leave the fuel where they found it. Plus, an ethical investing strategy is better for the planet.

This phenomenon has come to be known as "stranded assets" or "unburnable carbon". The institute argues that regardless of where you stand on the global warming debate, divesting from carbon producers and their backers won't have any negative impact on your long-term financial future.

What's the catch?

The trap waiting to spring shut on everyday investors is that the corporations haven't factored climate change into their balance sheets. So fossil fuels that are still in the ground are counted as assets, even though these corporations may not be able to mine all of them. The institute's report argues that when the expected mandatory climate change mitigation rules come into play over the coming years and those assets aren't realised, shares related to fossil fuels will take a big drop and investment portfolios will take a big hit. Even without a personal investment account, many – if not most – Australians would still be vulnerable because of fossil fuel-related assets in their superannuation accounts.

CARBON-FREE BANKING

While the big four banks are all involved in lending money to fossil fuel businesses, the following financial institutions claim to have steered clear of fossil fuel financing.

- Bankmecu
- Defence Bank
- Bendigo Bank
- ME Bank
- Beyond Bank
- People's Choice Credit Union

*Source: marketforces.org.au

The report cites a London-based think tank, Carbon Tracker, and the Intergovernmental Panel on Climate Change who claim that most of the world's coal, oil and gas reserves will remain untapped if polluters are obliged to stick to a "carbon budget" aimed at limiting global warming to a maximum of 2°C. According to the institute, "fossil fuel companies have committed to extract over three times this budget".

Are you a member of a super fund or managed fund invested in fossil fuel businesses? Ask your super fund for a breakdown of investments

How do I check?

It can be hard to know if you're investing in carbon producers or services that support them. To find out, here's what you need to check:

- Do you have direct share holdings in fossil fuel companies? Check your latest portfolio statement.
- Do you have an account with a bank that lends your money to companies who build the infrastructure used to extract, transport and burn fossil fuels (see below)?
- Are you a member of a super fund or managed fund invested in fossil fuel businesses? Ask your super fund provider for a breakdown of investments. "Energy" shares generally means fossil fuels.

A calculated choice

Screening out fossil fuel producers and related companies doesn't mean you'll have to accept lower returns on your investments, according to the Australia Institute's calculations. It compared a portfolio of specially selected ASX 200 companies whose business model doesn't depend on fossil fuel with the full ASX 200 list over a projected 10-year period.

The findings? Getting rid of fossil fuel-related investment had "no significant impact" on returns.

CHOICE verdict

The Australia Institute mounts a strong case for the phenomenon of unburnable carbon. While it's generally not practical for consumers to ask their super funds to realign their portfolios to avoid carbon-related assets, it may be a good time to have a look at your investments and consider the perspective outlined by the report.

The institute identifies a number of ethically managed funds with little or no fossil fuel exposure, including Australian Ethical's "Smaller Companies Trust", Hunter Hall's "Deep Green Trust" and Perpetual's "Wholesale Ethical SRI Fund".

We think that protecting your investment account from future loss and cutting down on carbon emissions are both pretty good goals. ■

IMAGE: SHUTTERSTOCK

Who's tied to fossil fuels?

The Australia Institute divides publicly listed miners, fossil fuel-related companies and banks into four categories depending on their level of exposure to fossil fuels. The higher the category, the more likely the company's shares will decrease in value due to being left with stranded assets, according to the institute.

Category 1: Substantially involved in fossil fuel extraction	Woodside Petroleum, Origin Energy, Santos, Caltex, Oil Search, Beach Energy, Aurora Oil & Gas, Whitehaven Coal, Karoon Gas, AWE, Senex Energy, Drillsearch, Linc, Aquila Resources, Horizon, Buru Energy, Coalspur
Category 2: Large secondary involvement with fossil fuel-related activities	Envestra, APA Group, AGL Energy, Energy World
Category 3: Large direct fossil fuel exposure but a small proportion of operations	BHP Billiton, Rio Tinto, Wesfarmers
Category 4: Indirect fossil fuel exposure	Asciano, ANZ Bank, Aurizon, Ausdrill, Boart, Cardno, Commonwealth Bank, Decmil Group, Downer Edi, Incitec Pivot, Leighton Holdings, Lend Lease, Macquarie Group, Mineral Resources, Monadelphous, National Australia Bank, NRW Holdings, Orica Limited, QBE Insurance, Qube Holdings, Suncorp, Toll Holdings, Transfield Services, Transpacific Industries, UGL, Westpac Bank, WorleyParsons

Prices up in the air

Why are online airfares so prone to fluctuation? **Andy Kollmorgen** shops around for flights

The price you end up paying for something can depend on when you make the purchase. This is especially true when you're shopping online for flights. A recent CHOICE check on the websites of Virgin, Qantas and Expedia confirmed prices can change dramatically in a short period of time. We also found that notices such as "two seats left!" shouldn't be taken literally.

Time-of-day pricing has long been applied to services like electricity and road tolls, but in these cases you generally know what the price is going to be at a given time. And if you're looking for cheap flights around holiday time, it's no secret the price hikes are coming. But airfares can change at any time according to a formula known only to the airline. So why can cheap flights be so fleeting?

One theory is that the airline increases the airfares if you perform multiple searches for the same flight. An airline industry expert we spoke to claims there's anecdotal evidence to support this, and recommends clearing your browser cookies before purchasing airfares on the internet. Qantas, Virgin and Expedia Australia do, however, deny this happens.

Price fixing by online booking sites could also be a factor, at least in isolated cases. In December last year, the Federal Court found Flight Centre had attempted to strike deals with Singapore Airlines, Malaysian Airlines and Emirates to make their international airfares on Flight Centre's website the same. The likely goal for Flight Centre was to avoid having to honour its "price beat" guarantee, which promised to price match any cheaper flights. (The airlines were not accused of any wrongdoing in the case.)

Airfares can change at any time according to a formula known only to the airline

The airlines respond

We asked Qantas, Virgin and Expedia to explain the continual price changes on their websites and provide some traveller tips on how to avoid overpaying.

A **Virgin** spokesperson told us there are too many variables at play to predict when flights will be cheapest. These include supply and demand, time of year, the size of the aircraft and how many other carriers are flying that route at a given time. According to Virgin, the only reliable strategy is to buy early.

"The earlier a customer buys a seat the better, since prices are at their lowest when seats first become available," the spokesperson said. "But there will always be factors that can mean cheaper seats will become available later, including a change in fuel prices, seasonal and special event demand, weather events, or a switch to a larger plane." Notices such as "two seats left" are true in one sense, he argued, but in reality mean there are that many seats left at that price at that time.

He acknowledged cheaper seats on the same flight and in the same class could become available five minutes later.

Qantas told us airfares are "dependent on the route, time of day, day of week and time of year", and that prices fluctuate more as the departure date nears. The earlier you book, the cheaper the flight, the spokesperson said, but added there is no optimum time between booking and flying. She also said the "five or fewer seats" notice posted next to airfares means "number of seats currently available at the price point indicated" – not that there's only five seats left on the plane in that class. On the day we checked, eight out of nine flights from Sydney to LA return had "five or fewer seats" from 11.38am to 3.18pm. By 3.35pm, the warning had dropped from four of the flights but the price stayed the same.

Expedia Australia's managing director, Georg Ruebensal, offered an insider's view of how airlines control seating. "While all seats in economy might look the same, they are not. Airlines have multiple ticket code types within a single flight and cabin – seat 25F may be a T class, seat 25A may be a W class, and seat 25D may be an X class. And, they release new tickets to the public on an ongoing basis, depending on demand."

Ruebensal also recommends buying early. "From about 15 days out, we start to see prices jump 10-15%, and then jump again from about 10 days out. Closer to the flight date, when there are only a few seats left, the airline will tend to increase prices as more seats are sold.

20%

The difference between peak and off-peak airfares*

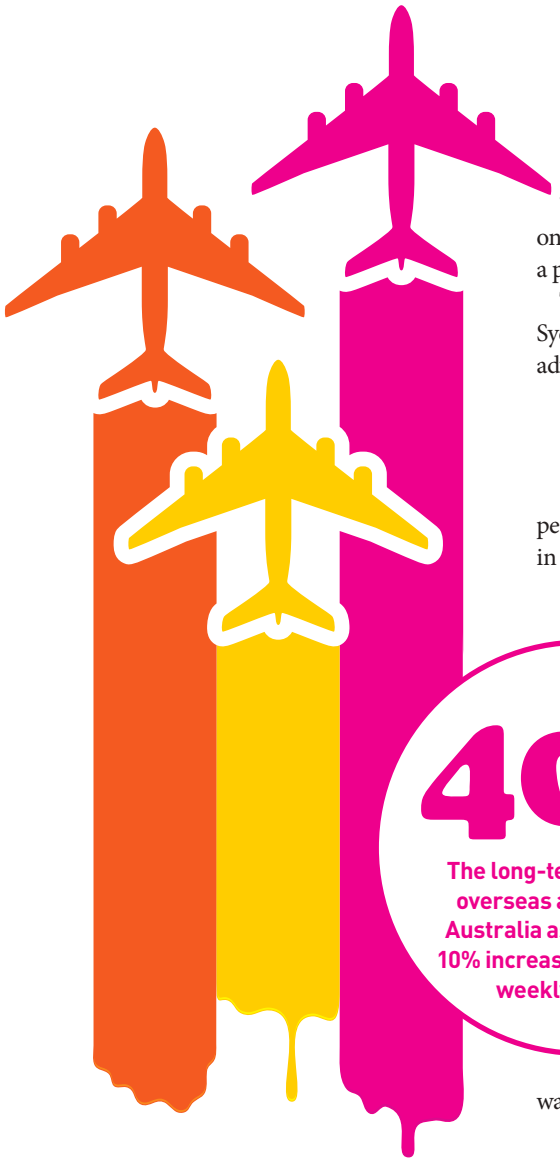
$975

The amount you could have saved on the same Sydney-LA return flight if you booked at 2.33pm instead of 11.41am the same day on Virgin Australia's website

IMAGE: SHUTTERSTOCK. * PEAK TIMES ARE GENERALLY SUMMER AND CHRISTMAS, BUT SPECIAL EVENTS CAN ALSO DRIVE UP AIRFARES.

FINDING THE CHEAPEST FLIGHTS

- Book as far in advance as you can – last-minute deals crop up, but not reliably enough to plan a trip. Note: flights generally can't be booked more than 12 months in advance.
- Avoid peak business traveller days, such as Sunday nights, Monday mornings and Friday afternoons.
- Avoid peak traveller hours, generally between 6.30 and 9.30am and 4-7pm.
- Avoid surcharges! Pay with fee-free methods like BPay or POLi.
- Use comparison sites to compare ticket prices (see **choice.com.au/flightwebsites)**, but be sure to check the airline's own site before making a purchase. The price may be the same, and the booking fees less.
- Clear your cookies just in case before making a ticket purchase so no-one can track your searches.



"Customers who really want to be on that flight will be happy to pay a premium price."

Travellers who booked a flight from Sydney to Fiji more than 60 days in advance in 2013 paid 20% less than people who booked less than a week in advance, Ruebensal said.

Cheap flights will be less available when more people are trying to buy them

Time to travel?

Variable pricing appears to be mostly a supply-and-demand model; cheap flights will be less available when more people are trying to buy them. But they can also become much cheaper without warning if, for instance, an airline wants to fill the last few seats on a flight. We watched a Virgin flight from Sydney to LA drop from $3682 to $2707 in less than three hours (departure was 18 days away).

For Australians, the ability to travel overseas is closely tied to economic circumstances. According to one recent study, a 10% increase in average weekly income will mean a 12% rise in overseas air travel from Australia in the short term and a 40% increase over the long run. When unemployment is high and consumer confidence low, on the other hand, overseas flights will face lower demand and will therefore be cheaper.

But it's a different story on the other side of the equation – airfare increases don't have much of an impact on the volume of travellers. A 10% increase in airfares only decreases air travel by 0.6% in the short run and two per cent if the prices stay high, suggesting Australian travellers view flights as a fixed cost despite the price variations. ■

40%

The long-term increase in overseas air travel from Australia as the result of a 10% increase in the average weekly income *

PRICE CHECK, PLEASE

Airfares can vary widely for the same flight if you check at different times of the day. They may also vary widely depending on where you book, but that's another story. We looked at airfares for the same direct flights leaving Sydney on 31 March and returning on 7 April, across a 24-hour period. Prices don't include any credit card surcharges. In this instance, only Virgin Australia's website showed radical price variation, but all ticket sellers seemed to engage in dubious messaging about available seats.

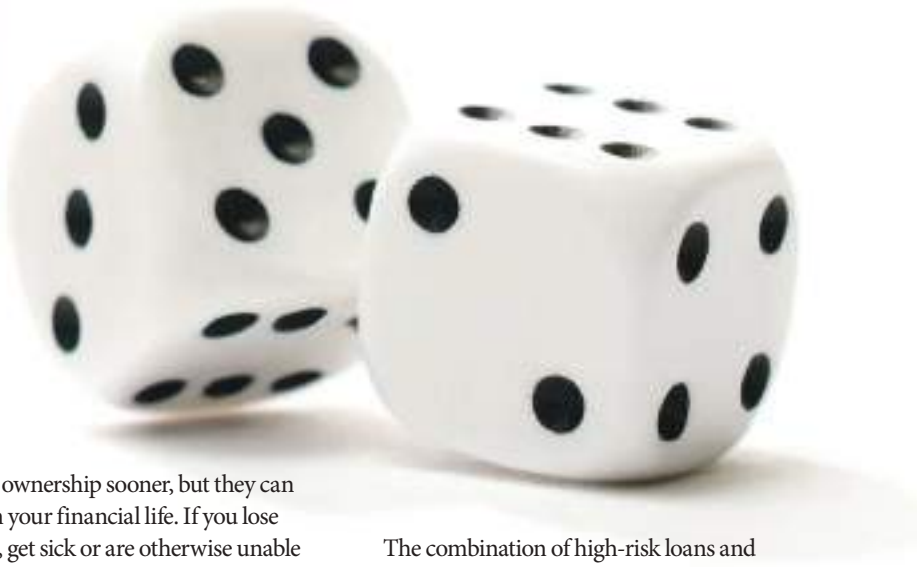
Pricing variation for the same Sydney to LA return flights

AIRLINE/AGENT	PRICE CHECK	PRICE CHECK
Virgin	11.41am – $3682	2.33pm – **$2707** ("two seats left")
Qantas	3.18pm – $4122 ("5 or fewer seats!")	3.35pm – **$4122** ("5 or fewer seats" notice was removed)
Expedia	10.19am – $2056 ("only 4 tickets left at this price!")	10.12am the next day –**$2086** (only 1 ticket left at this price!)

* SOURCE: SEETARAM N, ESTIMATING DEMAND ELASTICITIES FOR AUSTRALIA'S INTERNATIONAL OUTBOUND TOURISM, *TOURISM ECONOMICS* 2012

RISKY HOME LOANS

Banks are selling home loan products which can get borrowers into big trouble, **Uta Mihm** says



Unless you had a hefty chunk of savings on hand you would've been hard pressed to get a home loan approved by your bank during the GFC. Lending standards were tightened in the wake of the financial crisis that happened to be set off by home loan defaults.

Now, about six years later, three high-risk borrowing strategies are back on the market for those who have little or nothing in the way of a down payment. About one in three new home loan borrowers have less than the normally required 20% deposit. Family guarantees are offered by many lenders, including the big four banks. Some lenders offer 40-year mortgages to borrowers who can't afford the a standard 30-year one.

These types of strategies allow you to take the leap from renting to home ownership sooner, but they can also ruin your financial life. If you lose your job, get sick or are otherwise unable to keep up with the repayments, it may not take long until the bank asks you to sell your house - or even repossesses it.

If your parents or siblings guarantee your loan, they may lose their house as well. As Katherine Lane, principal solicitor of the Consumer Credit Legal Centre, told us, "the lenders always give themselves the option to sell either property, so it's possible the guarantor may lose their home first".

$34.16

difference between the weekly minimum repayments for a $300,000 home loan over 40 years compared to 30 years at an interest rate of six per cent

$140,800

extra interest on a $300,000 home loan over 40 years compared to 30 years at an interest rate of six per cent

The combination of high-risk loans and a housing bubble is especially dangerous – and the RBA recently warned that a fall in house prices is a real possibility. Borrowers with little equity could end up making mortgage payments they can barely afford based on more than the house is worth.

No deposit, no problem?

Low deposit loans are on the rise again. About 15% of all new loans are approved with a deposit of less than 10%.

The Australian Prudential Regulation Authority is concerned and has warned that lenders need to ensure borrowers can afford higher repayments when interest rates rise from today's historically low levels. Overseas regulators have similar concerns and have acted on them. In New Zealand, loans to home buyers with less than 20% deposit have been limited to 10% of new loans since October 2013.

IMAGE: SHUTTERSTOCK

With a deposit of less than 20% of the loan, you will be required to take out lender's mortgage insurance (LMI). For example, if you want to buy a $400,000 house and have only a $20,000 deposit, you'll be up for about $12,500 in LMI with one insurer if you're a first home buyer and close to $14,000 if you aren't.

A handful of lenders allow you to capitalise the LMI premium into the loan, which would leave you with precious little equity in the home. And if you paid a few thousand dollars more than the property was worth, there's a real chance you wouldn't be able to repay the mortgage if you had to sell the home.

And, while the lender is protected by LMI, you aren't. "If you have to sell the house and there is a shortfall, you are facing bankruptcy. The mortgage insurer who wants to collect the debt will not be afraid to enforce the debt which may include making you bankrupt," says Lane.

No guarantee

One way to avoid paying LMI is to ask a family member, such as a parent, to guarantee all or part of your loan. While not without risks to the guarantor, this usually allows you to borrow up to 100% of the value of the home without paying mortgage insurance. RAMS even offers a low-deposit loan combined with a guarantee that allows you to borrow 120% of the value of your home. (See *CHOICE* Dec/Jan, page 9.)

Your bank will also require a guarantee if you don't earn enough to service the loan repayments or you haven't got a good credit standing, for example, if you're a recent graduate and haven't had your job for long.

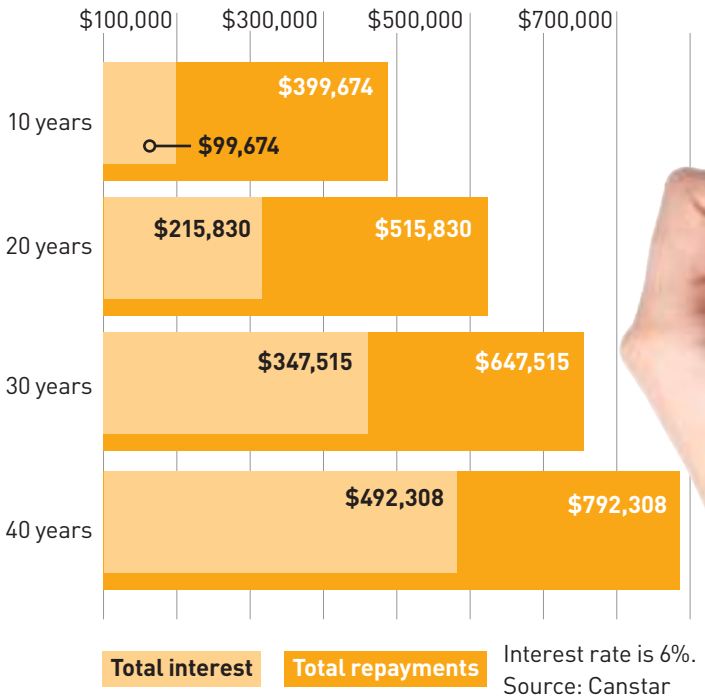
Usually the lender asks for a mortgage on the home of the guarantor, such as the parents of the borrower. For elderly parents who are no longer in the workforce and who might have worked all their life to finally own their family home, this is a high-risk strategy and is certainly not advisable.

"Don't ever do it", says credit ombudsman Raj Venga, who is aware of cases where parents have lost their family home in these circumstances. "As you can imagine, this can be very traumatic for the guarantors."

TIP

Check if you can afford a rate increase of two to three per cent. Making extra repayments gives you a buffer that can protect you from getting into trouble when rates go up

What you pay for a $300,000 home loan



Interest rate is 6%.
Source: Canstar

Alternatives

If you're a parent, and want to help your children with their loan, there are alternatives to going guarantor:

- **Give a gift** to your children to help them with the deposit – but check on gifting rules if you're about to retire or on Centrelink payments.
- Take out an **unsecured personal loan** for the amount you want to give to your children and ask them to make all or part of the repayments – the interest rate will be higher but the risks are much smaller.

How much will your repayments increase when interest rates go up?

Monthly repayment on a $300,000 home loan
Source: Canstar

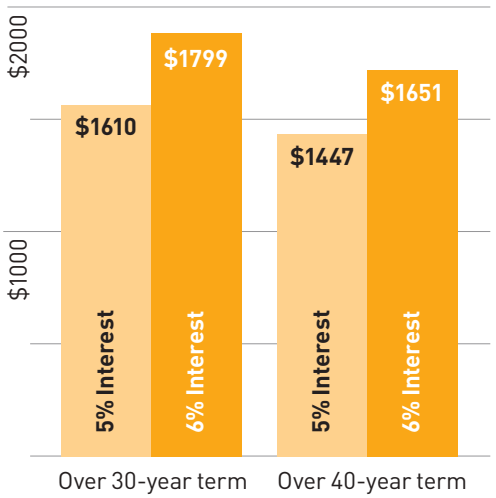


IMAGE: SHUTTERSTOCK

- Make sure you **have enough savings** to cover the guarantee if problems arise. NAB allows you to use a NAB term deposit as security for the guarantee, which ensures your house is protected.

Finally, if things go wrong, and the lender threatens to sell the house, immediately get legal advice. If you make a complaint to the Financial Ombudsman Service or Credit Ombudsman Service the bank has to pause enforcement proceedings while the complaint is assessed.

A loan for half a lifetime

A number of lenders offer 40-year mortgages. Of the three strategies this can be called the riskiest: taking out a 40-year home loan because you can't afford the repayments on a 30-year one will backfire if interest rates go up again. It can cost over $100,000 more in interest on an average home loan. See graph, page 38.

"Interest rates go through cycles. The average interest rate for standard home loans over the past 20 years has been 7.6% compared with 5.9% today. In 2008, at the peak of the last cycle, it was around nine per cent says Canstar research manager, Mitchell Watson.

On a $300,000 loan over 40 years any repayment savings compared with a 30-year home loan would be lost if the interest rate goes up from 5 per cent to just 6 per cent. (See graph on the left.) ■

How can you protect yourself?

Fixed loans can be a good choice if you need to budget, for example, if you have a baby on the way and will go from two incomes to one.

Like variable rates, fixed rates are currently at historical lows. "Rates below five per cent can be found for fixed terms up to three years. These rates are very low and even if the RBA does cut some more, it is unlikely that fixed rates will go significantly below their current levels," says Peter Marshall, Mozo's product data manager.

Fixed rates can give you certainty about your repayments. However, the downside is that you may have to pay expensive break costs should you want to repay the loan early. Look for fixed loans with:

- 100% offset account – offered by Adelaide Bank, for example
- extra repayments without penalty – available from many lenders, including the big four.

BIG FOUR HOME LOAN RATES

	1-year fixed		3-year fixed		5-year fixed		Extra repayments while fixed?
	Rate	Comparison rate *	Rate	Comparison rate *	Rate	Comparison rate *	
ANZ	4.79	5.26	5.05	5.28	5.79	5.59	5% of initial loan balance or $5000 per year, whichever is the lesser
Commonwealth Bank	4.79	5.29	5.09	5.32	5.69	5.57	$10,000 per fixed term year
NAB	4.79	5.27	5.06	5.29	5.69	5.56	$20,000 during fixed term
Westpac	4.79	5.27	5.09	5.32	5.79	5.60	$30,000 during fixed term

TABLE NOTES* Comparison rates based on a packaged loan of $250,000 over 25 years. Fixed loans revert to a package home loan with an annual fee and package rate of: ANZ, $375, 5.08%; CBA, $375, 5.10%; NAB, $395%, 5.08%; Westpac $395, 5.08%. Source: mozo.com.au. Current at: 7 April 2014.

TIP

Consider fixing part of your loan, called a split loan. You can make extra repayments into the variable portion of the loan

TRAP

Don't try beating the bank. Even economists are often wrong when predicting long-term interest rate movements

Ask the Experts

Got a niggling question our team can help with?

Q I can't get a subsidised satellite service in an area 35km out of Esperance, WA, because I can get Telstra mobile broadband, but it's costly and doesn't provide an adequate download capacity. I have several questions about why these services aren't better.

A CHOICE technology journalist Ros Page replies: We put your questions to the Australian Communications Consumer Action Network (ACCAN) and CEO Teresa Corban provided some answers. See accan.gov.au for more help.

Why does 3G cost more with smaller download limits than ADSL?

There are a range of cost factors related to infrastructure – but it's important to remember the wireless data spectrum is a finite resource. Every user added to a wireless network take up more spectrum and ultimately will slow the network.

It's also important to note that ADSL build costs are less, as it uses the existing copper network.

Are rural residents disadvantaged?

In short, yes. Satellite services are already at capacity and there's no more space for subscribers until the NBN satellites are launched sometime in 2015. 3G is likely to be less effective due to mobile networks having less coverage compared to the city. And even fixed-line services are often only available from one provider (Telstra), which means price and service is usually not as good.

Q We purchased tickets to a concert interstate, which was then cancelled. It's been rescheduled, but we can't make the new date as we'll be on holidays. We'd already booked flights and accommodation for our stay, so we'll be out of pocket by a considerable amount. What can we do?

A CHOICE journalist Zoya Sheftalovich replies: Under the Australian Consumer Law, consumers have an automatic right to a refund on an authorised ticket to an event if it's cancelled. Consumers can also claim a refund where an event is postponed and the new dates are unsuitable.

As regards your flights and accommodation, firstly you should seek a refund or change of date with the airline and hotel directly. While airlines and hotels aren't obligated to provide refunds, some may help you get a positive outcome in this unpredictable situation.

If you're unable to change your travel arrangements, you may be covered by ticket insurance or travel insurance. If you bought a ticket with a credit card, you may have insurance automatically included, so check with your provider. If all else fails, contact the department of fair trading or consumer affairs in your state to inquire about whether you're eligible to claim back your outlay as a consequential loss.

Zoya Sheftalovich

Ask us!

Do you have a question for one of CHOICE's experts? Email us at **asktheexperts@choice.com.au** or write to us at:
Ask the Experts, CHOICE,
57 Carrington Rd, Marrickville,
NSW 2204

Q After reading your "Opening Credits" story (*CHOICE*, Apr 14), I applied for my report from Dun & Bradstreet (D&B). D&B says it is unable to provide a credit report for me, as "... investigation of our consumer database ... has revealed that we do not have a credit report matching your search criteria." Seeing as I've just refinanced my home loan using the exact same details as in the credit report application, why is D&B unable to find me?

A CHOICE journalist Uta Mihm replies: There are a number of possibilities. The worst-case scenario is that D&B has made a mistake in your file and therefore can't find you. More likely, your credit provider didn't give your information to D&B. There could also be a delay and you should check again next year. Just because D&B hasn't got a file for you doesn't mean other credit-reporting agencies don't have one. Check with Veda (mycreditfile.com.au/home/free-credit-file.dot) and Experian (experian.com.au/credit-services/credit-reports/order-credit-report.html). ■

COMPILED BY SIOBAHN DONOHOE

On Test

Fridges, cameras, printers and bicycle lights – they're all here

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Which mixing and blending appliances make kitchen work a breeze?

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CHOICE's Chris Ruggles zooms in on quality shots

CHOICE

CHOICE'S experienced technical staff puts products through their paces in our own testing laboratories. We use test methods based on Australian standards and develop our own to match the way consumers use a product in their homes. We buy the products we test, maintaining our independence from manufacturers and so we know what you're faced with in the shops. We've checked the models are available at the time we publish. Our recommendations are based on a product's quality and performance, with no hidden bias.

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CHOICE Green Buy
Our researchers award a Green Buy to a product that delivers good quality and environmental performance. Not every test report includes Green Buys.

Nutshell

- We test five mixers, three hand mixers, five stick blenders and six blenders.
- We also take a look at the Optimum blender to see how it stacks up against the Vitamix.

Kings of the kitchen

Rebecca Ciaramidaro reveals which of these appliances make kitchen work a breeze

Hand mixers

For small jobs such as whisking egg whites or making cake batters you can't go past adding a hand mixer to your kitchen artillery. The previously recommended models (opposite) stand out because they combine perfect performance with high ease of use. They're comfortable to use, have good controls and are fairly easy to clean.

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Fiona Mair, home economist from CHOICE's test kitchen, put three new hand mixers to the test but none make our What to Buy list. They perform excellently but are let down by ease of use, and they all have cracks and crevices where food can accumulate. The Philips has no non-slip grip; the KitchenAid Artisan Hand Mixer KHM926 has a convenient storage bag for attachments and graded lights to indicate the speed, but the eject button requires some pressure to release the beaters. The Target is a cheap buy but Fiona found the low speed to be too high, to the point where ingredients spray out. It has no non-slip grip and the unit vibrates during use.

WHAT TO LOOK FOR

Weight A heavy mixer is uncomfortable, but if it's too light it will give little control.

On/off switch acts as a safety mechanism, so the mixer won't turn on if it's on a speed when plugged in.

Rubber footing on the base allows the mixer to stay stable when "standing".

Attachments need to be a good length. Beaters are all you'll need – whisks and dough hooks don't necessarily provide better performance. Most attachments are dishwasher safe.

Pulse function allows you to remove excess mixture from the beaters whereas **boost** is useful to provide a quick burst of power.

Controls should be easy to access, and speed settings smooth to change.

A range of speed settings Low for combining and high for whisking.

HAND MIXERS	Price	PERFORMANCE Overall Score (%)
KitchenAid Artisan Hand Mixer KHM720	100	93
Bodum Bistro Electric Hand Mixer 11151	81	91
Kenwood kMix Boutique Hand Mixer HM791	139	91
Sunbeam MixMaster Hand Mixer JM6600	70	91
Breville the Handy Mix BHM100	50	90
Breville the Handy Mix Digital BHM510	80	89
• **Philips** Daily Collection Mixer HR1459/00	50	89
Sunbeam Mixmaster Compact MX5900	100	89
Kambrook Hand Mixer KHM10	35	88
• **KitchenAid** Artisan Hand Mixer KHM926	199	88
Sunbeam Beatermix Pro JM5900	55	88
Cuisinart Power Advantage Plus 9-speed Hand Mixer HM-90BCSA	129	87
Breville Wizz Mix EM3	45	83
Sunbeam Beatermix JM3250	40	83
Kenwood Hand Mixer HM330	40	81
• **Target** Hand Mixer TARHM30	15	81
Russell Hobbs Hand Mixer RHMX1	60	80
Abode Hand Mixer 707D	15	73

USING THE TABLE Scores The overall score is made up of performance (60%) and position. ** With beaters included. **(A)** Has a stainless-steel-look finish. **(B)** Dimensions

PREVIOUSLY RECOMMENDED

93% KitchenAid Artisan Hand KHM720 (*CHOICE*, Jun 12) $100
91% Bodum Bistro Electric Hand 11151 (*CHOICE*, Jun 12) $81
91% Kenwood kMix Boutique Hand Mixer HM791 (*CHOICE*, Mar 09) $139
91% Sunbeam MixMaster Hand JM6600 (*CHOICE*, Aug 13) $70
90% Breville the Handy Mix (*CHOICE*, Aug 13) $50

IMAGE: THINKSTOCK & SHUTTERSTOCK

Mixers

If you need something with more grunt to knead dough and other heavy batters, your best bet is investing in a sturdy mixer. We put five to the test, including two mixers with twin-tool attachments – the Sunbeam MX8500 Mixmaster Classic and MX1000 Fiesta Folding Mixmaster. Only the Kenwood Premier Major KMM770 joins our list of recommended models. The Homemaker and Kambrook bench mixers are among the cheapest models we've tested – the Homemaker is less than $100 – but apart from the Homemaker's excellent result for kneading dough, they weren't very impressive performers.

The Sunbeam MX8500 performs well overall but is a let down for mixing dough. Fiona needed to constantly scrape the bowl, and once a ball was formed the bowl stopped rotating. The Sunbeam MX1000 scored poorly for performance and wasn't tested for kneading dough as it doesn't come with dough hooks. These two mixers don't knead, so you'll have to do this part manually. If you intend to make doughs that require kneading you're best to invest in a single-tool mixer.

				FEATURES						SPECIFICATIONS		
Performance (%)	Whisk (%)	Beater (%)	Ease of use (%)	Whisk	Dough hooks	Pulse	Boost/turbo	Speed control	Mixer construction	Dimensions (HxWxD, cm)*	Weight (kg)**	Contact
100	100	100	83					7	P	19 x 8 x 14	0.96	kitchenaid.com.au
100	100	100	77	✓	✓			5	P	21 x 9 x 17	1.10	kitchenwaredirect.com.au
100	100	100	78		✓	✓		5	M	20 x 8 x 15	1.40	kenwood-australia.com
100	100	100	78	✓	✓		✓	6	P	20 x 9 x 16	0.98	sunbeam.com.au
100	100	100	75		✓		✓	16	P	20 x 10 x 15	0.94	breville.com.au
100	100	100	73		✓		✓	16	M	20 x 10 x 15	0.99	breville.com.au
100	100	100	73		✓		✓	5	P	17 x 8 x 14	0.84	philips.com.au
100	100	100	73		✓		✓	10	P	31 x 24 x 34 (B)	2.90	sunbeam.com.au
100	100	100	70				✓	5	P	20 x 9 x 16	0.90	kambrook.com.au
100	100	100	70	✓	✓			9	P	20 x 8 x 15	0.95	kitchenaid.com.au
100	100	100	70		✓		✓	10	P	19 x 9 x 17	1.10	sunbeam.com.au
90	80	100	83	✓	✓			9	P	20 x 9 X 16	1.40 (C)	cuisinart.com.au
88	75	100	75		✓	✓	✓	5	P	21 x 9 x 15	1.10	breville.com.au
85	70	100	80				✓	5	P	20 x 9 x 15	0.85	sunbeam.com.au
90	100	80	68		✓		✓	6	P	21 x 9 x 15	1.10	kenwood-australia.com
100	100	100	53		✓		✓	5	P	18 x 8 x 14	0.79	target.com.au
90	80	100	65		✓			16	P (A)	21 x 9 x 16	1.00	russellhobbs.com.au
80	60	100	63					5	P	13 x 7 x 17	0.65	bigw.com.au

ease of use (40%). **Price** Recommended retail as of March 2014. **TABLE NOTES** • Newly tested. * Measurements taken with the mixer in standing are for the compact benchtop mixer. **(C)** Weight includes storage container. **P** Plastic. **M** Metal.

WHAT TO BUY

88%
Kenwood Premier Major KMM770

Good points

- Comes with a pouring shield to add ingredients and contain splatter
- The height of the beaters can be adjusted
- Comes with a scraper beater
- Bowl and attachments are dishwasher safe
- Extra outlet for optional attachments
- Comes with a mincer and blender jug attachment

Bad points

- When kneading dough the top of the mixer jolts and the unit can move on the bench with a heavy load
- No eject button to remove beater – the attachment needs to be pushed and turned to release
- No cord storage

ABOUT THE REST

All the rest jolt when kneading dough, except for the **Sunbeam MX1000**, and the beater height can't be adjusted for any of them. Only the **Kambrook** comes with a pouring shield and the **Homemaker** and Kambrook have no eject button to remove the beaters. The **Sunbeam MX8500** has graded speeds according to their purpose (e.g. folding or kneading). The MX1000 is stable on the bench and comes with a large and small mixing bowl. The unit's arm can fold away for storage and it comes with a convenient cover. The wide bowl means you need to rotate it manually to make sure all ingredients are evenly mixed.

CONTACTS

MIXERS & BLENDERS

Bodum: kitchenwaredirect.com.au
Braun: braunhousehold.com.au
Breville: breville.com.au
Cuisinart: cuisinart.com.au
Electrolux: electrolux.com.au
Homemaker: kmart.com.au
Kambrook: kambrook.com.au
Kenwood: kenwood-australia.com
KitchenAid: kitchenaid.com.au
Magimix: magimix.com.au
Philips: philips.com.au
Russell Hobbs: russellhobbs.com.au
Sunbeam: sunbeam.com.au
Target: target.com.au

WHAT TO LOOK FOR

Stainless steel bowls are extremely durable; glass or plastic ones may be hard to replace if you break them.
A heavy-duty beater is likely to be the most frequently used tool for cakes and savoury dishes.
Single dough hook can handle the task of mixing and kneading dough.
Splash guards/pouring shield Ideally, the guard should attach to the motor head, so it's lifted away from the bowl when the motor head is lifted. Otherwise you'll have to remove the guard every time you want to scrape down the bowl. The pouring shield allows you to add ingredients while the mixer is running. Without one you'll need to either stop the mixer or reduce the speed when adding ingredients so they don't splash out.
A range of speed settings for kneading, mixing and whisking.
Wattage ranges from 300W to 1500W. Our testing shows this doesn't have a significant effect on performance.
Height-adjustable mixing tools can be fiddly to adjust, but allow the mixer to accommodate small quantities.
Spring loaded tilt-head allows for an easy and smooth lift.
Bowl lock keeps the bowl stable during mixing.

MIXERS		PERFORMANCE						FEATURES						
	Price ($)	Overall score (%)	Performance (%)	Whisk (egg white, %)	Beater (mixing cake, %)	Dough hook (pizza dough, %)	Ease of use (%)	Whisk	Pouring shield / splash guard	Speed control	Pulse option	Dishwasher safe	Mixer construction	Bowl type (SS)
SINGLE MIXER ATTACHMENTS														
Breville the Scraper Mixer Pro BEM800	600	89	97	90	100	100	78	✓	✓/✓	4		✓(B)	M	SS
Kenwood Kitchen Machine Chef Premier KMC510	599	89	97	100	90	100	77	✓	✓/✓	6 (A)	✓	✓(B)	M	SS
Kenwood kMix Stand Mixer KMX51	749	89	97	100	90	100	77	✓	✓/-	8		✓(B)	M	SS
Kenwood Classic Chef KM330	404	88	97	90	100	100	75	✓	✓/✓	8	✓	✓(B)	P	P
• **Kenwood** Premier Major KMM770	679	88	97	100	90	100	76	✓	✓/✓	6	✓	✓(C)	M	SS
Sunbeam Planetary MixMaster MX7900	299	88	97	100	90	100	75	✓	-/-	12		✓(B)	M, P	SS
Breville The Scraper Mixer BEM410	350	87	97	90	100	100	73	✓	-/-	6		✓(B)	M	SS
KitchenAid Artisan KSM150 Stand Mixer	749	87	100	100	100	100	68	✓	✓/-	10		✓(D)	M	SS
KitchenAid Platinum Stand Mixer KSM156	799	87	100	100	100	100	67	✓	-/-	10		✓(D)	M	G
Sunbeam Café Series Mixmaster MX9200	549	85	93	90	90	100	72	✓	✓/✓	12		✓	M	SS
Kenwood KM270 Patissier	349	84	92	75	100	100	73	✓	-/-	12		✓(B)	M, P	SS
KitchenAid KPM5 Stand Mixer	895	77	90	90	80	100	57	✓	✓/✓	10		✓(B)	M	SS
• **Homemaker** Bench Mixer (red)	69	67	63	50	40	100	72	✓	-/-	6	✓		M	SS
• **Kambrook** PowerMix Planetary bench mixer KSM500	180	66	60	50	60	70	76	✓	✓/✓	6	✓	✓(E)	P	SS
TWIN MIXER ATTACHMENTS														
Sunbeam Mixmaster Series II MX7700	199	82	88	100	75	90	73			12		✓(B)	P	SS
• **Sunbeam** MX8500 Mixmaster Classic	299	74	77	80	90	60	70	✓	-/-	12		✓(F)	M	SS
Sunbeam Mixmaster Compact Pro MX5950	139	71	68	75	50	80	75			10		✓(G)	P	SS
Breville Wizz Electronic Mixer BEM200C	200	57	50	100	25	25	68			12		✓(E)	P	SS
• **Sunbeam** MX1000 Fiesta Folding Mixmaster	139	57	45	50	40	na	74	✓	-/-	6		✓	P	SS

USING THE TABLE Scores The overall score is made up of performance (60%) and ease of use (40%). **Price** Recommended retail as of March 2014. **TABLE NOTES** •Newly tested. * The mixer was positioned with i.e. the width is the length of the mixer from side to side, the depth includes the bowl. ** Includes cord, bowl and beaters. **(A)** Plus minimum and maximum settings. **(B)** Bowl and attachments. **(C)** Bowl and attachments attachments except for whisk. **(E)** Bowl only. **(F)** Bowl and attachments on the top shelf. **(G)** Beaters and dough hooks but not the mixing bowl. **P** Plastic. **M** Metal. **SS** Stainless Steel. **G** Glass. **ns** Not Stated.

IMAGE: THINKSTOCK & SHUTTERSTOCK

Stick blenders

A stick blender is handy if you make soups or prepare lots of baby food. And if you make pastes or chop and grind small amounts of food, then the small food processor that many models come with make them even more versatile. Safety is just as important as comfort with stick blenders. Most come with some sort of guard to partially cover the blades, but it's still important to make sure your hands stay clear of this area. You should also take care if your stick blender has a metal guard, as it could scratch and damage bowls and saucepans. Since we've found stick blenders to be excellent for blending soft foods we only test models with a processing attachment and subject them to chopping and processing tests. In this test, three are recommended (see page 46). While the Philips Daily Collection Hand Blender HR1602/00 and Kambrook X Blade Food Prep System KSB100 are very good for performance, they're let down by their ease of use.

WHAT TO LOOK FOR

Comfortable grip that's easy to hold with a non-slip grip.
Sealed controls will make it less likely for food to get into any crevices.
The **cord** shouldn't get in the way of your hand when holding the blender.
Grinder/chopper/processor This is a separate unit that's useful for processing small quantities of ingredients such as nuts, bread, coffee, herbs, spices and raw vegetables.
Whipper/beater is an attachment specifically for whipping cream or beating egg whites.
Jug/beaker is useful for puréeing or blending.

For all previously recommended mixers and blenders, see *CHOICE*, Aug 13

STICK BLENDERS	PERFORMANCE					FEATURES		SPECIFICATIONS	
SUITABLE FOR HARD/DRY & SOFT FOODS	Price ($)	Overall score (%)	Performance (%)	Chopping (%)	Processing (%)	Ease of use (%)	Whisk attachment	Dishwasher safe	Weight (kg)	Jug (if supplied)/ Capacity (mL)
Electrolux TurboPro Stick Mixer ESTM6400	139	88	95	100	90	82	✓	(A)	1.1	1000
Breville the Control Grip BSB510	100	86	95	100	90	78	✓	✓	1.0	1250
• **Breville** The Control Grip Mash BSB520	140	86	95	100	90	77	✓	(B)	0.97	1250
Breville The Control Grip BSB400	80	86	95	100	90	77		✓	0.86	1250
Braun MultiQuick 5 Hand Blender MR530 Sauce	149	85	95	100	90	75	✓	✓	0.81	600
• **Sunbeam** StickMaster Platinum SM9000	129	84	95	100	90	73	✓	✓	0.98	1500
• **Braun** Multiquick 7 Hand Blender Patisserie MQ775	199	83	90	100	80	77	✓	(C)	0.89	600
Kambrook Power Drive Stick Mixer KSB8	55	79	95	100	90	63		✓	0.85	500
Kenwood TriBlade Hand Blender HB724	139	78	90	100	80	67	✓	(D)	0.86	750
• **Philips** Daily Collection Hand Blender HR1602/00	50	75	83	85	80	68	✓		0.67	500
Philips Jamie Oliver Hand Blender HR1680/00	90	75	80	80	80	70	✓	✓	0.77	1000
Cuisinart Stainless Stick Blender CSB-77A	119	74	80	80	80	68	✓		0.82	500
• **Kambrook** X Blade Food Prep System KSB100	70	73	80	100	60	67		✓	0.84	800
Sunbeam Stickmaster Pro SM8650	100	73	75	75	75	70	✓	✓	0.97	1000
Kambrook Essentials Stick Mixer KSB7	45	71	85	100	70	58		✓	0.81	600
Russell Hobbs Stick Mixer RHSM650	80	71	75	100	50	67	✓	✓	0.74	500

USING THE TABLE Scores The overall score is made up of performance (50%) and ease of use (50%). **Price** Recommended retail as of March 2014. **TABLE NOTES** All models in the table have a chopper attachment. • Newly tested. **(A)** Beaker and whisk are dishwasher safe. **(B)** Only shaft is dishwasher safe. **(C)** All attachments are dishwasher safe except for the whisk gear box. **(D)** Shaft, whisk, beaker, mini-chopper blade and bowl are dishwasher safe.

SPECIFICATIONS

Dimensions (cm, H x W x D)*	Weight (kg)**	Bowl capacity (L)
36 x 40 x 26	7.4	4.7
30 x 40 x 28	7.1	4.6
36 x 40 x 26	8.5	ns
31 x 36 x 27	6.1	ns
34 x 39 x 20	7.7	6.7
34 x 36 x 24	6.8	4.5
35 x 35 x 26	7.2	4.7
35 x 34 x 25	10.5	4.8
36 x 35 x 30	11.3	4.8
36 x 37 x 22	8.0	4.5
37 x 39 x 25	7.6	4.0
41 x 35 x 26	11.3	4.8
30 x 34 x 18	4.0	1.2
30 x 34 x 18	4.4	3.5
27 x 35 x 24	5.4	4.0
38 x 34 x 22	4.8	4.2 / 2.1
31 x 33 x 23	3.0	3.0
33 x 34 x 25	3.2	4.0 / 1.8
26 x 29 x 18	2.4	3.5

the controls at the front of the bench, except for splash guard. **(D)** Bowl and

Blenders

For What To Look For, refer to *CHOICE*, Aug 13, page 53

If you're into making cold iced drinks, smoothies and soups, a blender is worth your while. We checked out six in this round of testing, two of which are recommended (see far right).

WHAT TO BUY

86%
Breville The Control Grip Mash BSB520

Good points
- Comfortable non-slip grip
- Plastic around base of blade shaft protects bowls and saucepans from damage
- Blade shaft has a plastic cover for storage
- Controls are easy to use

Bad points
- Requires a little pressure to release shaft
- Processor bowl can become discoloured

84%
Sunbeam StickMaster Platinum SM9000

Good points
- Non-scratch wand base

Bad points
- Only OK to grip, no non-slip grip
- Blade cannot be removed from shaft
- Strong suction on turbo speed
- Processor bowl can become discoloured

83%
Braun Multiquick 7 Hand Blender Patisserie MQ775

Good points
- Comfortable non-slip grip
- Extra large processor with large chute and shredding and grating attachments
- Controls are easy to use
- Safety lock turns on after each use

Bad points
- Possible damage during blending from metal guards, to bowls and saucepans
- Requires a little pressure to release shaft
- Processor bowl can become discoloured

ABOUT THE REST

The **Philips HR1602/00** has no non-slip grip and is only OK to grip. Its plastic shaft and small processor bowl may become discoloured, and the blade can't be removed from the shaft.

The **Kambrook KSB100** has a narrow grip and uncomfortable controls that require pressure to use. The metal guards could damage bowls, beakers and saucepans and the processor bowl can become discoloured.

Optimum blending?

In this test we also looked at the Optimum Blender, which is comparable to the Vitamix, which we've previously tested as a first look. The Optimum has a powerful 1500W motor and large 2L jug capacity. It's excellent for blending soup and crushing ice, but can't chop carrots. The instructions call for water to be added when chopping vegetables but this turns the vegetables into

BLENDERS	Price ($)	PERFORMANCE Overall score (%)	Performance (%)
Breville the Kinetix Control BBL605	250	93	100
KitchenAid Platinum KSB650 Blender	299	91	97
KitchenAid Artisan Blender KSB560	249	91	97
• **Sunbeam** Café Series Blender PB9800	299	91	97
Breville ikon 550 Blender BBL550	180	89	100
Cuisinart SPB-600MRA	199	89	97
Cuisinart SSB-1A Hot and Cold Blender	299	88	100
Kenwood BL460 True Blender	66	87	93
Sunbeam Multi Blender Electronic PB7950	139	87	97
Kenwood kMix Blender BLX51	219	86	97
Bodum Bistro Blender 11303	129	85	90
Magimix Le Blender Matt Chrome with Mill 7MM11615	379	85	93
Sunbeam Multi Blender Pro PB7620	70	83	90
• **Sunbeam** Multiblender Platinum PB7650	109	81	87
Russell Hobbs Kitchen Metallics Blender RHBL3000B	119	79	83
• **Breville** the Kinetix Aero BBL420	160	79	83
• **Breville** the Power Blender BBL300	90	78	83
• **Russell Hobbs** Classic Blender RHBL1	50	77	83
Kenwood Compact Glass Blender BL680	99	75	77
• **Kenwood** Blender BL760	229	75	77
Kambrook Essentials 500W Blender KBL70	40	70	70
Breville The Light and Mighty BBL100	60	69	73
Kambrook Power Drive Blender KBL110	50	66	63
Breville Power Blender BLR50	80	61	57

a purée rather than chopping them. Much like the Vitamix, the Optimum can blend fresh fruit and vegetables with seeds, make dips, cake fillings, nut milks and refine grains. It also has functions for icing sugar, nut butter and green smoothies. Soup can be heated, but only to a warm temperature. Like the Vitamix it doesn't actually have a heating element, but instead the blades turn so fast that they generate friction, which creates heat. Fiona tested it further by blending avocado, kale vegetable soup and making a rockmelon smoothie. The results were impressive. The controls are easy to use, and while the plastic jug might stain, it is lightweight. The blade housing isn't removable and getting rid of food from around the blades can be awkward. It's very noisy during use and the large jug may be awkward to clean in a sink.

In comparison to the Vitamix (which received 3.5 stars) we'd give the first look of the Optimum 2.5 stars. While it's more versatile than a standard blender it's let down by its inability to chop without creating a puree.

For more on the Vitamix, go to **choice.com.au/vitamix**

IMAGE: THINKSTOCK & SHUTTERSTOCK

				FEATURES						SPECIFICATIONS		
Potato and leek soup (%)	Crushing ice (%)	Chopping carrots (%)	Ease of use (%)	Blender construction	Bowl type	Number of speeds	Cord storage	Jug lock	Removable blade housing	Dimensions (cm, H x W x D)	Weight of blender (kg)	Jug weight (kg)
100	100	100	83	M	P	5	✓			44 x 17 x 20	4	1.0
100	100	90	83	M	P	5				45 x 18 x 24	5.3	1.0
90	100	100	83	M	P	6 (A)				39 x 17 x 25	4.6	1.0
100	100	90	82	SS	P	5	✓		✓	48 x 16 x 22	5.1	1.1
100	100	100	73	M	G	5	✓		✓	43 x 16 x 21	5.1	2.2
90	100	100	77	S	G	2	✓		✓	39 x 17 x 22	3.6	1.8
100	100	100	70	P	G	4				45 x 22 x 21	4.7	2.3
100	100	80	77	P	P	3	✓	✓	✓	41 x 17 x 18	1.8	0.5
100	100	90	73	M	G	2 (B)	✓		✓	42 x 21 x 16	4.2	2.2
100	100	90	70	P	G	3	✓		✓	40 x 18 x 21	4.8	2.1
90	100	80	77	P	P	5 (A)	✓			35 x 17 x 23	2.6	0.7
100	100	80	73	M	G	4	✓		✓	44 x 16 x 18	4.9	2.2
90	80	100	73	P	G	5	✓		✓	42 x 22 x 16	3.5	1.9
100	70	90	72	M	G	3	✓		✓	42 x 15 x 16	4.4	2.3
90	80	80	73	P	G	10	✓		✓	42 x 16 x 16	3.7	1.9
100	100	50	72	SS	G	12	✓		✓	44 x 15 x 17	4.1	2.1
100	70	80	70	SS	G	5	✓		✓	41 x 17 x 19	3.4	1.9
100	70	80	68	SS	G	2	✓		✓	38 x 17 x 18	2.9	1.6
90	90	50	73	M	G	2	✓		✓	38 x 17 x 16	3.3	1.6
100	50	80	73	SS	G	5			✓	41 x 18 x 18	4.6	2.0
90	70	50	70	P	P	2			✓	40 x 17 x 18	1.8	0.5
100	70	50	63	P	P	2			✓	42 x 17 x 19	2.1	0.6
90	50	50	70	P	G	2				40 x 15 x 15	2.9	1.4
100	50	20	67	P	G	5	✓			43 x 16 x 23	3.5	1.8

WHAT TO BUY

91%

Sunbeam Cafe Series Blender PB9800

$299

Good points

- Large lightweight BPA free plastic jug
- Controls are easy to use
- Jug can be positioned any way
- Blade housing is removable
- Pre-programmed functions include smoothie, ice crush, pre clean and slow start

Bad points

- Large jug may be awkward to clean in a domestic sink
- Plastic jug may stain

81%

Sunbeam Multiblender Platinum PB7650

$109

Good points

- Jug can be positioned any way
- Blade housing is removable
- Controls are easy to use, clear written labelling with an indicator light

Bad points

- Noisy during operation
- Heavy glass jug
- Manual pulse is annoying
- Large jug may be awkward to clean in a domestic sink

ABOUT THE REST

All the rest have heavy glass jugs that can be positioned any way except the **Breville BBL300.** All except the **Kenwood BL760** have a manual pulse button that can be annoying to use. They all have removable blade housing, but the large jugs of the **Breville BBL420** and BL760 may make them awkward to clean in a sink. The Breville BBL420 and BBL300 have a loop on their lids, which help to lift them off but ingredients under the lid can spray out when you remove the lid of the BBL420. All are quite noisy during use except the Kenwood BL760. The **Russell Hobbs** and Breville BBL300 are a little unstable on the bench during blending and the jug can be easily knocked off the motor unit with a heavy load. The BL760 has four pre-programmed settings for ice, soups, smoothies and dips. ■

USING THE TABLE Scores The overall score is made up of performance (60%) and ease of use (40%). **Price** Recommended retail as of March 2014. **TABLE NOTES** • Newly tested. **M** Metal. **P** Plastic. **G** Glass. **SS** Stainless steel. **(A)** Pre-programmed functions/speeds. **(B)** Plus recipe-programmed buttons.

Nutshell

- Six new fridges join our current line-up.
- We look into noisy rattlers and explain what to do about them.

Good vibrations

Annoyed by that rattling or burbling noise coming from your fridge? **Matthew Steen** explains why it's happening and what you can do about it

You should expect your fridge to last you a long time – and you should also expect it to work well and maintain the right temperature. But they're not the only issues in play. As well as performance, we also receive a lot of feedback from members about their fridges making noise – burbling and rattling sounds in particular.

Before you call the handyperson, you may be able to fix simple noise problems yourself. It'll save you on call-out fees, leaving more change for tasty snacks. Don't forget your user manual – it should have some good tips for maintenance and can even break down some common troubleshooting issues for you.

What's that noise?

Like most other electrical products, fridges make noise. These can include:

- Fan sounds (moving cold air around different areas of the fridge)
- Pops (defrosting ice)
- Gurgling (liquid refrigerant circling the fridge)
- Hissing (difference in pressure between warm and cold air)
- Compressor noise.

If your fridge is making a lot of noise it could be because it doesn't have enough room to move hot air away to the surrounds, and needs to work harder to keep cool. Make sure you have enough air space around your fridge.

The right amount of space can usually be found in the manual. But if not, leaving at least 5-10cm around the sides, top and rear is generally enough. Install your fridge away from direct sunlight and any heat-generating appliances such as heaters, ovens, cooktops and dishwashers.

Check the controls to see if they're set to very cold. The colder they are, the more likely the compressor is to run. This is also likely to happen if a large amount of food has just been placed in the fridge, as it tries to cool the food down, or if you've put something hot (such as uncooled leftovers) into the fridge or freezer.

The fridge compressor is also likely to run more often in warmer seasons.

Check what's on top or balanced against the fridge – something could be vibrating against it when the compressor starts up. This can also happen on the inside if something is awkwardly stored inside the fridge and vibrates against something else in response to the compressor vibration.

HOW WE TEST

Temperature performance Our tester, Corinna Horrigan, assesses temperature **fluctuations** – the amount it swings as the compressor stops and starts – as even temperature is important for maintaining food quality. Corinna checks there is an appropriate **range** of temperatures in the fresh food and freezer compartments at the same time. Can you, for example, set the freezer at the coldest setting for longer freezer storage while keeping the fresh food section at an optimum 3°C? She also checks how **uniform** the temperature is throughout each compartment. She measures the effect on the fridge and freezer temperatures when the external temperature changes (**ambient** change), such as from summer to winter. And because many members tell us they've only changed their fridge controls once, to the **recommended** setting, Corinna assesses temperatures on this setting. If no recommendation is given, she assesses the factory, or mid, setting. A poor score for this means you should use a fridge freezer thermometer to get optimum temperatures, although we recommend this for any fridge.

Energy efficiency This is tested to the Australian standard. Corinna also checks the energy label that's required by law to be displayed on new fridges.

IMAGE: SHUTTERSTOCK

Previously recommended

381-450L

* **Fisher & Paykel** E402BRE3 (B) (Mar 13)	$1639

451-525L

* **Fisher & Paykel** RF522WDRX1 (B) (Mar 13)	$2349
Fisher & Paykel E522BRE4 (B)	$1759

SIDE-BY-SIDE

LG GC-P197DPSL (Sep 12)	$1799

(B) Freezer on bottom.

* Replaced by an upgraded series (e.g. E402BRE4), which has only had the control panel moved to the front right panel.

(Month and year in brackets refers to the *CHOICE* issue with full What to Buy profile)

WHAT TO LOOK FOR

A **chiller** is important for storing meat, fish and poultry (fresh or cooked) at a safe temperature for longer. If you're choosing a fridge with this feature, the chiller's temperature should be close to zero and ideally have a separate temperature control.

Crisper Look for a well-sealed crisper drawer to keep vegetables fresh. Check the fridge's air outlets don't blow onto it, as this will dry food out faster. A good crisper means you don't have to put your fruit and veggies in plastic bags. A fridge with one crisper drawer is usually the full width of the fridge; two crispers are usually each half the width, but occasionally you'll find a wider and a narrower one.

A **dairy compartment** is convenient for keeping butter and hard cheeses slightly soft.

Fresh food shelves should be easy to remove and replace and the range of shelf positions should suit your needs. Can you stand soft drink or wine bottles in the door shelves, for example? Split shelves can be handy for this.

Rollers are useful for moving the fridge easily and cleaning behind it. The fridge should also have **adjustable feet** (or rollers) for levelling. Four rollers are better than two, provided they have brakes or adjustable feet to secure the fridge in place.

Removable shelves Having all shelves removable when the door is at 90° is important for access and cleaning when the fridge has to be positioned with the door hinge next to a wall.

Door hinge Be sure to buy a fridge with a door hinge position that suits your kitchen layout. If you tend to move house a lot, opt for a door/hinge that is reversible (i.e. can be switched to swing from right to left or left to right), though you may have to purchase a kit and/or call in a service person to do it.

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		COSTS		PERFORMANCE														
		Price ($)	10-year running costs ($)	Freezer	Number of doors	Overall score (%)	Temperature performance (%)	Fluctuations (%)	Range (%)	Uniformity (%)	Ambient change (%)	Recommended setting (%)	Energy efficiency (%)	Claimed / measured energy use (kWh / year)	Noise level (dB)	Brand reliability	Brand loyalty
<300L	**LG** GN-253VW	699	1097	T	2	65	61	45	70	70	58	80	81	435 / 422	47	86	90
	Haier HRFZ-213	499	933	T	2	53	45	65	48	60	5	0	83	375 / 359	31	na	na
	• **Haier** HRF 224FW	499	931	T	2	51	43	45	55	55	28	60	84	337 / 358	40	na	na
	• **Samsung** SR254MW	699	655	T	2	51	41	25	70	65	7	30	92	269 / 252	36	86	91
	Westinghouse WTM2000WC	619	796	T	2	47	37	35	70	50	15	40	87	360 / 306	37	92	94
	Fisher & Paykel E249TR	929	1087	T	2	43	34	0	35	50	63	50	81	394 / 418	35	90	92
300 - 380L	• **LG** GC-306NP	999	978	B	2	79	77	80	90	55	81	65	86	398 / 376	39	86	90
	Fisher & Paykel E331T	1049	1118	T	2	67	63	45	80	75	69	85	83	405 / 430	31	90	92
	Fisher & Paykel E381TRT2	999	1095	T	2	62	56	30	85	75	70	70	85	417 / 421	30	90	92
381-450 L	**Fisher & Paykel** E402BRE3 (A)	1639	1186	B	2	81	80	75	90	70	86	75	84	505 / 456	31	90	92
	Fisher & Paykel E442BRE3 (A)	1589	1284	B	2	81	80	75	90	70	83	90	83	525 / 494	31	90	92
	Mitsubishi MR-C405C-W-A1	1199	1451	B	3	72	71	80	65	50	83	90	76	515 / 558	31	na	na
	Westinghouse WBM4300WB	1629	1375	B	2	72	70	75	85	55	66	50	81	530 / 529	37	92	94
	Westinghouse WTM3900WB-R	1299	1110	T	2	69	65	60	85	70	38	75	85	450 / 427	37	92	94
	Kelvinator KTM4200WB-R	1279	1209	T	2	65	60	65	65	70	28	85	84	469 / 465	39	93	94
451-525 L	**Fisher & Paykel** RF522WDRX1 (A)	2349	1368	B	2	83	83	75	85	80	95	85	84	540 / 526	28	90	92
	• **Fisher & Paykel** E522BRE4	1759	1456	B	2	81	81	90	85	60	80	90	82	540 / 560	30	90	92
	Electrolux EBM5100SC	1799	1043	B	2	74	70	70	80	65	62	80	89	428 / 401	34	93	95
	Electrolux EBM5107SC	2849	1097	B	2	74	71	70	75	65	70	70	88	428 / 422	32	93	95
	Westinghouse WBM5100WC	2019	1352	B	2	72	69	80	90	35	57	75	84	532 / 520	35	92	94
	Bosch KGN53X125A	1649	1196	B	2	71	67	90	55	80	52	0	85	448 / 460	37	na	na
	Panasonic NR-BW465VWAU	1499	1022	B	2	71	67	80	55	75	54	65	88	422 / 393	28	na	na
	Westinghouse WBE5100SC	2379	1396	B	2	71	68	55	90	65	56	90	83	532 / 537	34	92	94
	• **LG** GN-515GS	1449	1321	T	2	68	64	70	50	60	72	85	85	525 / 508	38	86	90
<525 & FD	**Fisher & Paykel** RF610ADUX3 (A)	3399	1643	B	3	76	74	55	85	80	78	90	82	645 / 632	32	90	92
	LG GR-L730SL	3599	1882	B	3	75	73	70	82	50	85	85	81	774 / 724	35	86	90
	LG GR-L219CSL	3620	1760	B	4	74	73	80	70	70	64	85	79	750 / 677	35	86	90
	• **Electrolux** EHE5107SB	2929	1594	B	3	65	62	50	90	55	46	80	79	555 / 613	39	93	95
	Samsung SRF527DSLS	2299	1492	B	3	52	45	10	85	65	81	75	82	637/574	39	86	91
SIDE-BY-SIDE	**LG** GC-P197DPSL	1799	1609	L	2	81	81	90	85	65	79	75	82	638 / 619	37	86	90
	Daewoo FRS-U20ICW	1299	1729	L	2	74	72	60	80	75	74	90	81	650 / 665	38	na	na
	Westinghouse WSE6100WF	2219	1550	L	2	72	69	55	85	45	90	75	84	605 / 596	36	92	94
	Westinghouse WSE7000WF	2569	1708	L	2	64	59	45	85	45	85	50	83	637 / 657	40	92	94
	Samsung SRS600NLS	1999	1690	L	2	55	49	25	90	55	67	60	81	672 / 650	35	86	91
PIGEON PAIRS	**Westinghouse** WRM3700WB-R/WFM3600WB-L	3348	2080	na	2	74	73	65	80	60	85	85	80	1019 / 800	na	92	94
	Fisher & Paykel E450R/E388LW	2998	2460	na	2	69	67	55	90	55	70	55	75	951 / 947	na	90	92
	Fisher & Paykel C270R/EL210L	2008	2249	na	2	57	57	60	80	40	56	0	57	843 / 865	na	90	92
FRIDGE ONLY	**Westinghouse** WRM3700WB-R	1319	848	na	1	81	79	75	75	75	90	85	89	353 / 326	39	92	94
	Fisher & Paykel E450R	1499	879	na	1	78	75	75	75	75	70	90	90	335 / 338	40	90	92
	Fisher & Paykel C270R	929	980	na	1	66	62	70	75	55	56	0	83	362 / 377	32	90	92

FEATURES				SPECIFICATIONS							
Chiller	Dairy compartment	Rollers	All shelves removable at 90°	Dimensions (cm, H x W x D)	Claimed total volume (L)	Claimed volume, fresh food (L)	Claimed volume, freezer (L)	Crisper drawer	Fresh food shelves / shelf positions	Door hinge position	Contact
✓				161 x 54 x 60	253	179	74	1	2/4	R	lg.com.au
		✓		144 x 55 x 58	213	172	41	1	3 / 8	R	haier.com.au
✓		✓	✓	142 x 55 x 64	224	153	71	1	2/3	R	haier.com.au
✓				155 x 56 x 64	255	184	71	1	2/3	R	samsung.com.au
✓		✓	✓	148 x 52 x 60	203	144	59	1	3/5	Rev	westinghouse.com.au
	✓			160 x 53 x 58	248	191	57	1	3/11	R	fp.com.au
			✓	174 x 60 x 65	306	185	121	1	2/4	R	lg.com.au
	✓	✓		143 x 64 x 71	329	232	97	1	2/13	Rev	fp.com.au
	✓	✓	✓	160 x 64 x 72	380	283	97	1	3/17	R	fp.com.au
	✓	✓		170 x 64 x 72	403	280	123	2	3/17	R or L	fp.com.au
	✓	✓		170 x 68 x 72	442	307	135	2	3/18	R or L	fp.com.au
✓		✓	✓	180 x 60 x 66	406	227	103	1	3/5	R	mitsubishielectric.com.au
	✓	✓		172 x 71 x 71	431	300	131	1	3/10	R or L	westinghouse.com.au
	✓	✓		172 x 70 x 65	390	302	91	1	3/12	R	westinghouse.com.au
	✓	✓		164 x 70 x 71	420	313	103	1	3/16	R	kelvinator.com.au
	✓	✓		172 x 79 x 70	519	360	159	2	3/17	R or L	fp.com.au
	✓	✓		170 x 79 x 72	519	360	159	2	3/17	Rev	fp.com.au
	✓	✓	✓	172 x 81 x 75	510	349	156	2	2/8	R or L	electrolux.com.au
✓	✓	✓		171 x 79 x 62	505	349	156	2	2/8	R	electrolux.com.au
	✓	✓	✓	172 x 79 x 71	510	349	156	2	3/10	R or L	westinghouse.com.au
✓			✓	170 x 70 x 75	452	323	70	2	3/4	Rev	bosch.com.au
✓		✓	✓	177 x 68 x 71	465	338	127	1	2/4	R	panasonic.com.au
	✓	✓	✓	172 x 80 x 71	510	352	158	2	3/10	R	westinghouse.com.au
		✓		172 x 78 x 73	515	361	154	1	3/7	R	lg.com.au
	✓	✓	✓	179 x 90 x 70	610	433	181	2	2/14	na	fp.com.au
(B)	✓	✓	✓	178 x 91 x 72	730	452	250	2	4/8 (D)	na	lg.com.au
✓	✓	✓	✓	178 x 91 x 77	610	402	196	2	2/14	na	lg.com.au
	✓	✓		171 x 79 x 62	510	349	156	2	2/8	na	electrolux.com.au
	✓	✓		178 x 82 x 77	527	352	175	2	2/4	na	samsung.com.au
	✓	✓		176 x 90 x 73	567	353	214	0	3/8	na	lg.com.au
(C)	✓	✓		179 x 90 x 73	618	377	241	2	3/6	na	daewooelectronics.com.au
	✓	✓		177 x 90 x 75	606	357	249	2	3/12	na	westinghouse.com.au
✓	✓	✓		176 x 100 x 74	700	450	250	2	3/11	na	westinghouse.com.au
	✓	✓		179 x 91 x 72	600	363	237	2	4/9	na	samsung.com.au
	✓	✓		172 x 151 x 66	730	370	360	1	4/21	na	westinghouse.com.au
	✓	✓		170 x 128 x 72	840	451	389	1	4/32	na	fp.com.au
	✓		✓	160 x 106 x 58	479	266	213	1	5/19	na	fp.com.au
	✓	✓		172 x 61 x 66	370	370	na	1	4/21	R	westinghouse.com.au
	✓	✓		170 x 64 x 72	451	451	na	1	4/32	R	fp.com.au
	✓		✓	160 x 53 x 57	266	266	na	1	5/19	R	fp.com.au

USING THE TABLE Price Recommended retail, as of February 2014. Many fridges are available in other styles and finishes, at a different price. Some can also be built into cabinets with a door kit that matches your kitchen cupboards. **Scores** The overall score consists of temperature performance (80%) and energy efficiency (20%). **Temperature performance** This score consists of fluctuations (30%), range (25%), uniformity (20%), ambient change (20%) and recommended setting (5%). **Features** see What to Look For, page 49. **Energy efficiency** is based on the fridge's energy consumption, taking into account its size. **Noise level** These are comparative measurements taken 1m up and 1m away from the fridge during normal running. Fridges can sound noticeably louder as the compressor starts and stops and may make unusual noises during automatic defrosting. **Claimed volumes** This is how much air space the fridge has to cool; less space is available for storage. Use the volumes to get an idea of how big the freezer is compared with the fresh-food compartment. **10-year running costs** are calculated at a rate of 26c/kWh. A 10-year period gives a useful indication of the long-term differences between high and low energy use – and you should expect your fridge to last at least this long. **TABLE NOTES** • Newly tested. **na** Not applicable. **Rev** Reversible door. **(A)** Fisher & Paykel claim the only difference between the 3 Series and 4 Series currently available is the control panel being moved to the front right of the fridge. **(B)** Variable temperature drawer can be set as a chiller. **(C)** This chiller was too warm in our tests for optimal storage of highly perishable foods. **(D)** Four half-width shelves. **T** Top. **B** Bottom. **L** Left. **R** Right.

WINTER IS COMING

CHOICE's home heating experts give you the rundown on your heating options for the coming cold season

Did you enjoy winter last year? Or did you freeze? Were you in shock after reading the energy bill that followed it? Then it may be time to move to a Pacific island. Failing that, you can always change the way you heat your home. We outline the options that don't involve you relocating to an island paradise.

GAS HEATERS

People are embracing open-plan living more than ever, but heating such large spaces can be a real challenge. A gas heater is a great solution for heating a large space quickly and cost-effectively.

Just how much space are you heating?

Measuring a gas heater's warming capacity isn't just about room size – it's also about how quickly the heater can warm the space. The room size and local climate will determine what size gas heater will effectively heat your room.

Unflued gas heaters must not be installed in a room too small for their rated capacity due to the emissions they produce. For fast heating, choose the biggest capacity (measured in MJ/h – megajoules per hour) suitable for the room. A lower-capacity heater can still heat the room but it will be slower.

COST

The average price range for flued heaters is from $1200 to $2200. The average price range for unflued heaters is from $400 to $1400.

Do you have a flue?

A flue is a pipe that carries exhaust gases from your heater or fireplace to the outdoors, saving your room from being filled with fumes. Suffice to say, they are important. If you're a renter or don't want to go to all the fuss of a flue, you might want to look at a portable, or unflued, gas heater.

Flued or unflued?

There are benefits and drawbacks to both flued and unflued heaters.

Pros of a regular unflued gas heater

- They're **portable**, so you can point them in different directions, move them from room to room, store them away in summer and take them with you when you move house.
- They're **very efficient** – about 90% of the energy content of the gas is transformed into heat. All models sold in Australia have to be certified and carry an efficiency label (up to six stars, with six being the best).
- They provide **instant heat** – and lots of it. Unflued gas heaters come with a capacity of up to 25 MJ/h (megajoules per hour). That's equivalent to more than 6kW of electric heating – the same as you'd get from three 2kW electric heaters.
- They're **much cheaper** to run than a portable electric heater, although they're a lot more expensive to buy.
- They **produce a quarter to a third of the carbon dioxide** of an equivalent electric heater (unless you get your electricity from renewable sources).
- Modern models have **a range of safety features** that switch the heater off in case something's wrong – for example, an oxygen depletion sensor if the oxygen level in the room gets too low, flame failure protection in case the flame gets extinguished, and a tilt switch in case the heater tips over.

Cons of a regular unflued gas heater

- Not having a flue means **emissions from the gas combustion process in the heater are vented back into your room.**
- They're **illegal to use in bedrooms, bathrooms and other small or badly ventilated rooms**, so for those areas you need a flued heater (which vents the products of combustion via a flue to the outside), or an electric heater.
- **Some states have further restrictions** for use of this heater type – check with a gas plumber or retailer.
- An **unflued gas heater produces carbon monoxide (CO) and nitrous oxides (NO_x)**, though only in relatively small quantities (Aussie emission standards are among the toughest in the world). But they can still cause problems for asthmatics or people with certain allergies or respiratory problems – a flued gas heater will be a better solution for these people.
- **Water vapour from the combustion process can also condense on walls and ceilings and cause mould**, which is why ventilation is so important.

There are benefits and drawbacks to both flued and unflued heaters

Flued gas heaters

CHOICE strongly recommends professional installation for these heaters, as many things can go wrong. When our experts tested a range of flued heaters back in 2010, in every case there were incorrect parts supplied or manuals incorrectly printed – and some heaters were not assembled correctly to the point of being potentially dangerous.

Do you need a chimney?

Not necessarily. Most units can be installed in an existing fireplace, with an existing chimney accommodating the flue. Otherwise, you can use a firebox and put the unit anywhere in the room, as long as you can incorporate a flue.

FLAME-EFFECT HEATERS

How would you like the old-world charm of a roaring fire, without the smoke or messy hearth? Don't have a chimney? No problem! It's time to take a look at an electric fireplace heater. Also called flame-effect heaters, these perform as a normal electric convection heater and are perfect on a cold evening. What could be more heartening than a fire (effect) to gather around? They're also a great in-between for renters who can't have a log fire for insurance reasons.

COST From $250 to $400.

WHAT TO LOOK FOR

Controls These heaters offer fairly simple controls – two heat settings and the ability to operate the flame effect without heating should be standard.

Thermostat Some models also have a thermostat, which switches the heating elements on and off to maintain a temperature.

Flame dimmer For that extra level of ambience, some models also allow you to change the flame level to suit your mood.

Cord length Make sure the electrical cord of the heater will reach your power point, as an extension lead is not recommended.

Replacement bulbs Most heaters use standard clear candle-type light bulbs to create a flame effect and they're fairly simple to replace. If a bulb goes out, the model should continue to operate as a normal convection heater.

ILLUSTRATIONS BY GEMMA RASMUSSEN

ELECTRIC HEATERS

If you have a big space to heat, an electric heater may not be your best bet. However, if you have a small, enclosed space such as a bathroom or bedroom, an electric heater will do the job – particularly one with a fan. Just keep in mind the ever-climbing running costs of electric appliances. There are three different types of electric heaters available.

Radiant heaters

These personal heaters radiate heat from a red-hot heating element.

COST
From $20 to $200.

Pros

- There are floor and wall-mounted models.
- They're cheap.

Cons

- They don't heat the air in a room very well.
- The relatively exposed heating element can be a fire and safety hazard. For example, a piece of clothing dropped over it may ignite, or small children playing around a floor model may burn themselves – so be careful.

Oil-filled column heaters

These don't actually burn oil – they use electricity to heat the oil that's sealed inside their columns or "fins". The heat from the oil is then transferred to the casing and to the air circulating the fins. Some column heaters aren't even oil-filled but instead use other material or heating technology, but work the same way.

Pros

- Column heaters are particularly useful in rooms where they'll be switched on for long periods of time or where they'll operate unattended, such as overnight in a bedroom.
- The surfaces you're likely to touch on a column heater don't get as hot as on other types of electric heaters.
- You can use a ceiling fan on very low speed to assist the column heater to distribute the heat faster and more evenly, or look for a model with a fan.

Cons

- They rely on natural convection so they take longer to heat a room than fan-assisted heaters of similar capacity.
- If there's not much air movement (for example, if you're sitting reading or watching TV), the heat may not be distributed evenly.

COST
From $50 to $380.

COST
From $40 to $600.

Convection heaters

These heaters draw cold air over an electric heating element. The warmed air then leaves the heater and rises towards the ceiling, while cooler air moves in to replace it.

They also usually have a fan that enhances the convection effect by forcing the warm air from the heater. When you use the fan, the room will heat up more quickly and evenly. Without it, the air is more likely to form horizontal temperature layers that could leave you with cold feet – particularly if there's not much movement in the room (again, if you're reading or watching TV – activities many people enjoy during winter). The fan will break up these layers to a certain extent. However, it's also noisy – so make sure the fan can be switched off.

Pros

- They're more portable than their oil-filled column heater counterparts because they're significantly lighter.
- As with a column heater, you can use a ceiling fan on very low speed to it to distribute the heat faster and more evenly.

Cons

- Some models, particularly panel heaters, are comparatively expensive to buy. ■

Seeing stars

Look for lots of stars on the energy label to find an efficient air con unit this winter, says **Chris Barnes**

To heat your home, you have a range of options, such as gas heaters and various electric models (see page 52), each one suiting different needs. But for a large room or open-plan living area, a reverse-cycle split system air conditioner is one of the most efficient heating options. And if you also need to cool the room, a reverse-cycle model can look very attractive indeed.

With rising electricity costs, it's important to first make your home thermally efficient – with passive solar design, insulation, curtains and blinds, shade trees and so on – to minimise your cooling and heating needs. If an air conditioner is still needed, look for one that's the right size for the room and as efficient as possible. That means a model with lots of stars on its energy label.

The good news is that new air conditioners are becoming more efficient and cost effective every year. Daikin's new "Ururu Sarara" range includes the 2.5kW FTXZ25NV1B (see right), the first model to achieve seven stars in its energy rating.

Nutshell

- CHOICE reviews more than 130 reverse-cycle split-system inverter air conditioners, priced from $715 to over $5000.
- The best models are highlighted here; the full list, plus what to look for when buying an air conditioner, can be found at choice.com.au/airconditioners

It's claimed to use sophisticated humidification/dehumidification/ventilation technology to achieve thermal comfort with less power consumption, and it uses a more environmentally friendly refrigerant (R32, which Fujitsu also uses in some models).

WHAT TO BUY

SMALL (LESS THAN 4KW)

96%

Daikin FTXZ25NV1B

Cooling/heating capacities (kW): 2.5 / 3.6

Good points

- Excellent cooling and heating efficiency
- Excellent range of airflow
- Excellent brand reliability

Bad points

- None to mention

MEDIUM (4-6KW)

88%

Daikin FTXZ50NV1B

Cooling/heating capacities (kW): 5 / 6.3

Good points

- Excellent cooling and heating efficiency
- Excellent brand reliability

Bad points

- Only OK range of airflow

85%

Samsung F-AR18FSSSCWK1

Cooling/heating capacities (kW): 5 / 6

Good points

- Excellent cooling efficiency
- Good heating efficiency
- Very good range of airflow

Bad points

- None to mention

WHERE'S MY BRAND?

Not all brands respond to our survey. Without full information on specifications and ongoing availability, we haven't been able to include these brands, but hope to do so in future updates.

	COSTS		PERFORMANCE							FEATURES						SPECIFICATIONS
								Maximum capacity (kW)								
	Price ($)	Yearly running cost ($)	Overall score (%)	Cooling efficiency score (%)	Heating efficiency score (%)	Airflow score (%)	Noise indoor / outdoor (dB)	Cooling	Heating	Number of fan speeds	Fast operation	Quiet operation	Fan-only mode	Sleep mode / with auto temperature reduction	Type	Indoor model
SMALL – LESS THAN 4KW COOLING CAPACITY																
Daikin FTXZ25NV1B	1846	272	96	98	95	92	38 / 46	2.5	3.6	5	✓	✓	✓	✓ / ✓	High wall	FTXZ25NV1B
Daikin FTXZ35NV1B	2190	312	79	82	81	71	42 / 48	3.5	5.0	5	✓	✓	✓	✓ / ✓	High wall	FTXZ35NV1B
Samsung F-AR09FSSSBWK1	979	315	78	78	78	80	36 / 45	2.5	3.2	4	✓	✓	✓	✓ / ✓	High wall	AR09FSSSBWKNSA
Samsung F-AR09FSSSCWK1	979	315	78	78	78	80	36 / 45	2.5	3.2	4	✓	✓	✓	✓ / ✓	High wall	AR09FSSSCWKNSA
Fujitsu ASTG09KUCA	1529	328	77	78	76	77	42 / 47	2.5	3.2	4	✓	✓	✓	✓ / ✓	High wall	ASTG09KUCA
Mitsubishi Heavy SRK25ZJX-S	1025	307	77	77	80	70	41 / 60	2.6	3.1	3	✓	✓	✓	✓ / ✓	High wall	SRK25ZJX-S
Fujitsu ASTG09KMCA	1459	328	76	78	77	70	40 / 47	2.5	3.2	4	✓	✓	✓	✓ / ✓	High wall	ASTG09KMCA
Daikin FTXS25LVMA	1284	334	71	71	76	63	40 / 47	2.5	3.4	5	✓	✓	✓	✓ / ✓	High wall	FTXS25LVMA
Samsung F-AR12FSSSBWK1	1149	356	71	65	69	88	38 / 46	3.5	4.0	4	✓	✓	✓	✓ / ✓	High wall	AR12FSSSBWKNSA
Samsung F-AR12FSSSCWK1	1149	356	71	65	69	88	38 / 46	3.5	4.0	4	✓	✓	✓	✓ / ✓	High wall	AR12FSSSCWKNSA
MEDIUM – 4-6KW																
Daikin FTXZ50NV1B	3030	352	88	97	92	64	47 / 49	5.0	6.3	5	✓	✓	✓	✓ / ✓	High wall	FTXZ50NV1B
Fujitsu ASTG18KMCA	2409	378	85	96	83	65	46 / 47	5.0	6.0	4	✓	✓	✓	✓ / ✓	High wall	ASTG18KMCA
Samsung F-AR18FSSSBWK1	1629	386	85	92	79	81	38 / 51	5.0	6.0	4	✓	✓	✓	✓ / ✓	High wall	AR18FSSSBWKNSA
Samsung F-AR18FSSSCWK1	1629	386	85	92	79	81	38 / 51	5.0	6.0	4	✓	✓	✓	✓ / ✓	High wall	AR18FSSSCWKNSA
Fujitsu ASTG22KMCA	2709	409	80	85	82	65	48 / 49	6.0	7.2	4	✓	✓	✓	✓ / ✓	High wall	ASTG22KMCA
Mitsubishi Heavy SRK50ZJX-S1	1449	386	80	83	87	58	47 / 63	5.0	6.0	3	✓	✓	✓	✓ / ✓	High wall	SRK50ZJ-S1
Daikin FTXS50LVMA	2099	404	78	83	79	65	46 / 47	5.0	6.0	5	✓	✓	✓	✓ / ✓	High wall	FTXS50LVMA
Teco TWS-TSO60HVC	1769	492	77	81	77	71	32 / 60	6.0	6.0	4	✓		✓	✓ / ✓	High wall	TWS60HVC
Fujitsu ASTG18KUCA	2509	418	76	84	72	68	47 / 68	5.0	6.0	4	✓	✓	✓	✓ / ✓	High wall	ASTG18KUCA
Daikin FTXS60LVMA	2342	414	75	76	77	68	48 / 49	6.0	7.0	5	✓	✓	✓	✓ / ✓	High wall	FTXS60LVMA
LARGE – 6.1KW AND OVER																
Mitsubishi Heavy SRK63ZMA-S	1538	422	86	92	84	77	57 / 49	6.3	7.1	4	✓	✓	✓	✓ / ✓	High wall	SRK63ZMA-S
Fujitsu ASTG24KMCA	2959	439	84	90	85	70	49 / 52	7.1	8.0	4	✓	✓	✓	✓ / ✓	High wall	ASTG24KMCA
Mitsubishi Heavy SRK92ZMA-S	2538	448	82	90	75	82	51 / 56	9.2	10	4	✓	✓	✓	✓ / ✓	High wall	SRK92ZMA-S
Mitsubishi Electric MSZGE71KITD	2896	461	80	83	82	68	41 / 55	7.1	8.1	6		✓		- / -	High wall	MSZ-GE71VAD-A1
Mitsubishi Heavy SRK71ZMA-S	1599	462	80	81	79	79	49 / 53	7.1	8.0	4	✓	✓	✓	✓ / ✓	High wall	SRK71ZMA-S
Mitsubishi Heavy SRK80ZMA-S	2021	456	80	83	75	82	51 / 56	8.0	9.0	4	✓	✓	✓	✓ / ✓	High wall	SRK80ZMA-S
Daikin FTXS71LVMA	2679	445	78	83	80	63	49 / 52	7.1	8.0	5	✓	✓	✓	✓ / ✓	High wall	FTXS71LVMA
Hitachi RAS-70YHA3	1837	469	78	79	80	72	30 / 51	7.0	8.3	4		✓	✓	✓ / ✓	High wall	RAS-70YHA3
Kelvinator KSV70HRC	1454	442	78	87	75	65	35 / 68	7.0	7.6	5	✓	✓	✓	✓ / ✓	High wall	KSV70HRC
Mitsubishi Heavy SRK63ZK-S	1536	420	78	82	85	56	47 / 62	6.3	7.1	3	✓	✓	✓	✓ / ✓	High wall	SRK63ZK-S

How we test

We review air conditioners based on manufacturer data (cross-checked against the government energy rating database) so that we can report on a large range of models.

The brand reliability noted in model profiles is based on our 2014 member survey. Some brands did not get enough responses for us to report on them individually.

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Outdoor model	Dimensions indoor unit (cm, H x W x D)	Dimensions outdoor unit (cm, H x W x D)	Contact
RXZ25NV1B	79.8 x 29.5 x 37.2	79.5 x 69.3 x 30	daikin.com.au
RXZ35NV1B	79.8 x 29.5 x 37.2	79.5 x 69.3 x 30	daikin.com.au
AR09FSSSBWKXSA	89.6 x 26 x 27.5	79 x 54.7 x 28.1	samsung.com.au
AR09FSSSCWKXSA	89.6 x 26 x 27.5	79 x 54.7 x 28.1	samsung.com.au
AOTG09KUCA	28.2 x 87 x 18.5	54 x 79 x 29	fujitsu.com.au
SRC25ZJX-S	30.9 x 89 x 22	59.5 x 78.0 x 29	mhiaa.com.au
AOTG09KMCA	84 x 26.8 x 20.3	79 x 54 x 29	fujitsu.com.au
RXS25LVMA	80 x 29.5 x 21.5	76.5 x 55 x 28.5	daikin.com.au
AR12FSSSBWKXSA	89.6 x 26 x 27.5	79 x 54.7 x 28.1	samsung.com.au
AR12FSSSCWKXSA	89.6 x 26 x 27.5	79 x 54.7 x 28.1	samsung.com.au
RXZ50NV1B	79.8 x 29.5 x 37.2	79.5 x 69.3 x 30	daikin.com.au
AOTG18KMCA	94 x 29.5 x 27	79 x 62 x 29	fujitsu.com.au
AR18FSSSBWKXSA	106.3 x 29.4 x 31.7	88 x 79.3 x 31	samsung.com.au
AR18FSSSCWKXSA	106.3 x 29.4 x 31.7	88 x 79.3 x 31	samsung.com.au
AOTG22KMCA	94 x 29.5 x 27	79 x 62 x 29	fujitsu.com.au
SRC50ZJX-S1	30.9 x 89 x 22	64 x 80 x 29	mhiaa.com.au
RXS50LVMA	105 x 34 x 24.8	82.5 x 73.5 x 30	daikin.com.au
TSO60HVC	99 x 31.5 x 21.8	90 x 86 x 35.5	teco.com.au
AOTG18KUCA	28.2 x 87 x 18.5	62 x 79 x 29	fujitsu.com.au
RXS60LVMA	105 x 34 x 24.8	82.5 x 73.5 x 30	daikin.com.au
SRC63ZMA-S	31.8 x 109.8 x 24.8	75 x 88 x 34	mhiaa.com.au
AOTG24KMCA	94 x 29.5 x 27	79 x 62 x 29	fujitsu.com.au
SRC92ZMA-S	31.8 x 109.8 x 24.8	130 x 97 x 37	mhiaa.com.au
MUZ-GE71VAD-A1	32.5 x 110 x 23.8	88 x 84 x 33	mitsubishielectric.com.au
SRC71ZMA-S	31.8 x 109.8 x 24.8	75 x 88 x 34	mhiaa.com.au
SRC80ZMA-S	31.8 x 109.8 x 24.8	84.5 x 97 x 37	mhiaa.com.au
RXS71LVMA	105 x 34 x 24.8	90 x 77 x 30	daikin.com.au
RAC-70YHA3	33.3 x 115 x 24.5	80 x 85 x 29.8	hitachiaircon.com.au
KSV70HRC	119 x 34 x 25	92 x 79 x 37	kelvinator.com.au
SRC63ZK-S	31.8 x 109.8 x 24.8	75 x 88 x 34	mhiaa.com.au

USING THE TABLE Due to space, the table lists only the top 10 models for each size category. **Price** Suggested or typical retail price as of March 2014. Actual prices can vary considerably from the suggested retail price. **Scores** The overall score is made up of cooling efficiency (40%), heating efficiency (40%) and airflow (20%). A model scoring 90% has excellent efficiency, 70% is good and 50% is borderline. **Annual running costs** We calculate how much each model costs to deliver 3000kWh of full cooling and 3000kWh of heating per year when running at its measured maximum capacity, with the remainder of the year in standby mode (based on electricity costs of 26 c/kWh). Standby costs add only a few dollars a year, but it may still be a good idea to unplug your air conditioner (if possible) when it's not in use for long periods.

WHAT TO BUY

LARGE (6.1KW AND OVER)

86%
Mitsubishi Heavy SRK63ZMA-S
Cooling/heating capacities (kW): 6.3 / 7.1

Good points
- Excellent cooling efficiency
- Very good heating efficiency
- Good range of airflow
- Excellent brand reliability

Bad points
- None to mention

82%
Mitsubishi Heavy SRK92ZMA-S
Cooling/heating capacities (kW): 9.2 / 10

Good points
- Excellent cooling efficiency
- Good heating efficiency
- Very good range of airflow
- Excellent brand reliability

Bad points
- None to mention

ABOUT THE REST

The table shows the top 10 models in each category. There are models representing most cooling or heating capacities here.

PREVIOUSLY RECOMMENDED

Medium

85% Fujitsu ASTG18KMCA (*CHOICE*, Oct 13)	$2409
85% Samsung F-AR18FSSSBWK1 (*CHOICE*, Oct 13)	$1629
80% Fujitsu ASTG22KMCA (*CHOICE*, Oct 13)	$2709
80% Mitsubishi Heavy SRK50ZJX-S1 (*CHOICE*, May 13)	$1449

Large

84% Fujitsu ASTG24KMCA (*CHOICE*, Oct 13)	$2959
80% Mitsubishi Electric MSZGE71KIT (*CHOICE*, May 13)	$2896

Serious clicks

Chris Ruggles picks the cream of the crop from our latest test of cameras designed for the photographer who wants more than a point and shoot

System cameras (cameras with interchangeable lenses) are great because they let you convert from an all-purpose device to one with a very specific use really easily. But some fixed-lens cameras are every bit as capable of producing great pictures, provided you're happy to live with their limitations.

The cameras in this story are our picks from the more than 70 cameras in our full test at **choice.com.au/digitalcameras**

Nutshell

- You don't have to pay a lot for a camera that can take great photos, but you'll probably have to compromise on features.
- There are many more options than a DSLR if you want a good-quality system camera.

WHAT TO BUY

77%
Olympus OM-D E-M1 + M.ZUIKO DIGITAL ED 12-40mm 1:2.8 PRO

This Micro-Four Thirds camera can produce very good images, if you're willing to pay for premium lenses.

Picture quality

Using the M.ZUIKO DIGITAL ED 12-40mm 1:2.8 PRO lens, pictures are well exposed, sharp and noise free, but there is a tendency for colours to shift slightly into yellow in low light. The cheaper M.ZUIKO DIGITAL ED 12-50mm 1:3.5-6.3 EZ MSC lens reduces the exposure accuracy a little and video quality is significantly reduced.

Ease of use

This camera takes some time to learn. It has a lot of features, but it's not always simple to master the buttons and dials, which can change function depending on the mode you select. However, there is a lot of room for customisation. The body is relatively small compared to most DSLRs, and the monitor tilts and works well in poor light. Movie playback has a pause, but no stop, trimming, or filter functions.

Pros: Programmable button on lens, many well-placed buttons and dials, swivelling touch display and well-structured menu with many functions.

Cons: You have to spend a little time with the camera to get into the rhythm of controlling it quickly. The cheaper lens looks and feels like plastic.

73%
Olympus OM-D E-M1 + M.ZUIKO DIGITAL ED 12-50mm 1:3.5-6.3 EZ MSC

73%
Panasonic Lumix DMC-GX7 + Lumix G Vario 14-42mm

This looks like another retro-themed compact system camera, but it handles more like a digital SLR.

Picture quality

Clarity and definition are the key words, both indoors and outdoors, with barely any noise and lots of pin-sharp detail. Indoor shots look slightly too yellow, while some noise and blur creep into low-light shots, and the exposure isn't always spot-on.

Ease of use

The camera is heavy but can still be gripped one-handed. The high-resolution monitor can swivel vertically and doubles as a touchscreen, letting you navigate the menus and make quick changes very easily, and its natural colours help when you're framing and focusing your shot.

The viewfinder is even better, and holds up well in both bright sunlight and poor interior lighting.

Pros: Brilliant photos and video, good handling, excellent monitor and viewfinder, Wi-Fi and NFC connections, compact and stylish.

Cons: Performance with flash could be better, and the battery is tricky to remove and replace.

72%
Canon EOS 700D + EF-S 18-55 IS STM Kit

This takes very good photos, and despite being a budget model it scores better than many higher-priced cameras.

Picture quality

Very good photos both outdoors and indoors. Landscape shots are clear and well exposed, while indoor shooting with the flash produces particularly good pictures. Quality holds up well even in murkier conditions and video footage is good too.

Ease of use

The controls are well laid out with several function buttons for controlling the picture settings. Pressing one of these turns the articulated LCD screen into a touchscreen control panel, giving quick access to a further range of functions. The optical viewfinder delivers a clear image of exactly the shot you're about to take.

It's fast to start up and shutter delay is minimal. In burst mode it can shoot around five frames a second – handy for action shots.

Pros: Great picture quality, budget price.

Cons: None at this price.

72%
Nikon A plus DF-CP1

A feature-packed 16.2Mp fixed focal length (28mm) camera with bags of shooting options for photographers who want more than a point-and-shoot model, but still want a camera they can carry in their pocket.

Picture quality

Very good overall picture quality. Auto mode delivers good results, but switching to manual gives you full exposure control and access to various controls, such as ISO speed and scene modes.

Ease of use

The on/off switch and mode dial are well placed and within easy reach of your thumb while shooting. A manual focus ring is located on the front and is very precise.

Setting shutter speed and aperture is intuitive, and the LCD screen suffers less in bright light than some other cameras.

It's not the fastest camera in operation, taking 1.6 seconds to fire up and get ready for a shot. Plus, shutter delay is long, at around 0.6 seconds, meaning you could miss the shot you were hoping for.

Pros: Great picture quality, and optional viewfinder.

Cons: No zoom lens, and it's relatively expensive.

IMAGES: SHUTTERSTOCK

72%
Sony Cyber-shot DSC-RX10

This is a big fixed lens camera with a relatively large sensor, long zoom and a fixed minimum aperture (f2.8).

Picture quality

Pictures are good in most situations. In low light there's a tendency to overexpose, which leaves skin tones and colours looking a bit washed out, but there's little noise and pictures are very sharp.

Ease of use

This feels solid and well made, if a little heavy, for a fixed lens camera. The monitor can tilt to make taking shots easier in poor light, or at difficult angles such as in a crowd, and the viewfinder is excellent. Changing image quality can only be done through the on-screen menu system.

Pros: Swivelling display, secure feeling due to the big, good grip on the leather-looking surface.

Cons: Relatively expensive.

71%
Canon EOS 70D + EF-S 18-55mm 1:3.5-5.6 IS STM

This great DSLR focuses at lightning speeds and shoots excellent video.

Picture quality

Consistently strong with well-balanced exposures, good, natural colours and

	PERFORMANCE									FEATURES & SPECIFICATIONS						
	Camera type	Price ($)	Overall score (%)	Image quality (%)	Ease of use (%)	Monitor (%)	Movie quality (%)	Flash (%)	Viewfinder (%)	Water / dust resistance	Interval shooting (time-lapse photography)	HDR function	Focus tracking	Touchscreen	Zoom range (35mm equivalent)	Minimum aperture (mm, wide - tele)
Olympus OM-D E-M1 + M.ZUIKO DIGITAL ED 12-40mm 1:2.8 PRO	System	2399	77	79	72	80	81	67	92	✓	✓	✓	✓	✓	24 - 80	2.8
Olympus OM-D E-M1 + M.ZUIKO DIGITAL ED 12-50mm 1:3.5-6.3 EZ MSC	System	1899	73	73	74	80	67	60	92	✓	✓	✓	✓	✓	24 - 100	3.5 - 6.3
Panasonic Lumix DMC-GX7 + Lumix G Vario 14-42mm	System	1249	73	71	73	85	79	64	89		✓	✓	✓	✓	28 - 84	3.5 - 5.6
Canon EOS 700D + EF-S 18-55 IS STM Kit	System	900	72	71	72	76	70	79	77			✓	✓	✓	29 - 88	3.5 - 5.6
Nikon A plus DF-CP1	Fixed lens	1299	72	76	62	82	74	66	65		✓		✓		28 - 28	2.8
Sony Cyber-shot DSC-RX10	Fixed lens	1499	72	74	65	77	82	62	94	✓		✓			24 - 200	2.8
Canon EOS 70D + EF-S 18-55mm 1:3.5-5.6 IS STM	System	1679	71	65	79	74	72	75	85			✓	✓	✓	29 - 88	3.5 - 5.6
Nikon D610 + AF-S NIKKOR 24-85 1:3.5-4.5G ED VR	System	2995	71	77	62	83	51	87	96	✓	✓	✓	✓		24 - 85	3.5 - 4.5
Nikon D3300 + AF-S DX NIKKOR 18–55 mm 1:3.5–5.6G VR II	System	800	71	69	69	84	76	57	83			✓			27 - 82.5	3.5 - 5.6
Canon EOS 100D + EF-S 18-55 IS STM Kit	System	800	70	69	68	76	71	75	77			✓	✓	✓	29 - 88	3.5 - 5.6
Canon EOS 650D Kit + Canon EF-S 18-55mm IS II	System	700	70	66	74	79	63	68	77			✓	✓	✓	28.8 - 88	3.5 - 5.6
Canon PowerShot G16	Fixed lens	500	70	74	62	75	67	79	42			✓	✓		28 - 140	1.8 - 2.8
Nikon D7100 Kit + 18-105 VR	System	1715	70	70	63	74	82	81	92	✓	✓	✓	✓		27 - 157.5	3.5 - 5.6
Panasonic Lumix DMC-GM1K + G VARIO 12-32mm 1:3.5-5.6 MEGA OIS	System	999	70	70	66	87	69	64	na				✓	✓	24 - 64	3.5 - 5.6
Sony Cyber-shot DSC-RX 100 M2 plus FDA-EV1MK	Fixed lens	1398	70	68	68	77	80	66	89			✓	✓		28 - 100	1.8 - 4.9

TABLE NOTES **Prices** are recommended retail from manufacturers, or prices found in Australian stores in February 2014. The **overall score** is a combination of image quality (45%), ease of use (30%), only. For fixed-lens cameras, the lens is retracted if possible. **Viewfinder E** Electronic. **O** Optical. **Wireless B** Blutooth. **NFC** Near field communication. **(A)** Max 4 seconds in iAuto. **(B)** Also (Hi 0,3 Hi 0,7 Hi **(G)** Non-TTL (through the lens). **(H)** Optional viewfinder. **na** Not applicable.

plenty of crisp detail. In low light there's a little motion blur and colours can go slightly awry, but the shots still look good and there's very little noise.

Ease of use

The big handgrip with rubber inlays makes this camera seem lighter. The various buttons and dials are logically placed and the various settings menus are straightforward. It has a viewfinder and touchscreen display, and you can very quickly set a focus point by tapping the touchscreen – handy for shooting video.

Pros: Excellent picture quality, well-built, easy to use, good video, lightning-fast auto focus.

Cons: Average image stabilisation.

IMAGE: SHUTTERSTOCK

71%

Nikon D610 + AF-S NIKKOR 24-85 1:3.5-4.5G ED VR

This camera's full-frame sensor lets you crop specific parts of a photo and still get a high-quality image.

Picture quality

Photos are very detailed with natural colours and little noise. Indoor portrait shots without the flash show a slight yellowish tint. Given the price, the built-in flash is only adequate, but there's a hot-shoe for attaching an external flash.

Ease of use

The mode dial has a lock button that requires some effort to release. The viewfinder is easy to see even in bright sunlight; the LCD screen less so, but it compares well to its rivals. You can select from one of 19 automatic scene modes.

Pros: Superior image quality, high-resolution sensor, twin memory card slots, good face-detection function.

Cons: No articulated screen.

Lens mount	Effective resolution (megapixels)	Sensor size (mm)	Dimensions (mm, W x H x D)	Weight (g)	Min - max shutter speed (sec)	ISO ratings (lowest - highest)	Monitor size (mm) / pixels (,000)	Viewfinder type / pixels (,000)	Wireless connection	Contact
Micro Four Thirds	15.9	17.3 x 13.0	135 x 93 x 74	551	1/8000 - 60	200 - 25,600	62 x 41 / 1037	E / 2360	Wi-Fi , B	olympus.com.au
Micro Four Thirds	15.9	17.3 x 13.0	135 x 93 x 74	551	1/8000 - 60	200 - 25,600	62 x 41 / 1037	E / 2360	Wi-Fi , B	olympus.com.au
Micro Four Thirds	15.8	17.3 x 13.0	132 x 74 x 52	421	1/8000 - 60	200 - 25,600	62 x 41 / 1040	E (F) / 2765	Wi-Fi, NFC	panasonic.com.au
Canon EF	17.9	22.3 x 14.9	133.1 x 99.8 x 78.8	847	1/4000 - 30	100 - 6400	64 x 43 / 1040	O		canon.com.au
na	16.1	23.6 x 15.6	111 x 90 x 40.3	351	1/2000 - 30	100 - 25,600 (D)	60 x 45 / 921	O (G)		nikon.com.au
na	20.0	13.2 x 8.8	137 x 90 x 120	862	1/1600 - 30	80 - 12,800	60 x 45 / 1229	E / 1440	Wi-Fi, NFC	sony.com.au
Canon EF	20.0	22.5 x 15.0	141 x 107 x 82	807	1/8000 - 30	100 - 12,800 (C)	64 x 43 / 1040	O	Wi-Fi	canon.com.au
Nikon F	24.2	35.9 x 24.0	143 x 115 x 83	898	1/4000 - 30	100 - 6400 (B)	64 x 48 / 921	O		nikon.com.au
Nikon F	24.0	23.5 x 15.6	125 x 98 x 78	494	1/4000 - 30	100 - 12,800 (D)	60 x 45 / 921	O		nikon.com.au
Canon EF	17.9	22.3 x 14.9	116.8 x 90.7 x 69.4	658	1/4000 - 30	100 - 6400	64 x 43 / 1040	O		canon.com.au
Canon EF	17.9	22.3 x 14.9	133 x 99.8 x 78.8	575	1/4000 - 30	100 - 12,800 (E)	64 x 44 / 1040	O		canon.com.au
na	12.0	7.5 x 5.7	109 x 79 x 41	385	1/4000 - 250	80 - 12,800	60 x 45 / 922	O (G)	Wi-Fi	canon.com.au
Nikon F	24.0	23.5 x 15.6	135.5 x 106.5 x 76	1246	1/10,000 - 30	100 - 25,600 (D)	67 x 51 / 1229	O		nikon.com.au
Micro Four Thirds	15.8	17.3 x 13.0	107 x 58 x 32	221	1/16,000 - 60	200 - 25,600	62 x 41 / 1036	na	Wi-Fi	panasonic.com.au
na	20.0	13.2 x 8.8	104 x 101 x 39	308	1/2000 - 30 (A)	100 - 12,800	60 x 45 / 1229	E (H) / 2359	Wi-Fi	sony.com.au

monitor (10%), movie quality (10%), flash (5%) and viewfinder (0 – tested but not included in the overall score). **Dimensions and weight** for system cameras is for the body
1 Hi 2) Hi 2 is equivalent to 25600. **(C)** Also H: 25,600. **(D)** after ISO 6400 it is called Hi 0,3 - Hi 2. **(E)** 25,600 is possible if enabled in menu. **(F)** 90° vertical swivel.

71%
Nikon D3300 + AF-S DX NIKKOR 18–55 mm 1:3.5–5.6G VR II

This is an ideal camera for the budget-conscious photographer who's keen to get involved with high-end photography.

Picture quality

In most circumstances pictures are good, but using the face-detection feature can produce underexposed images. In low light pictures tend to be a bit noisy, with colours and skin tones shifting into orange.

Ease of use

This is an easy camera to come to grips with. It's designed to fit most hands well despite its small size, and it's one of the lighter DSLRs around. Dials and buttons are well placed and the menus are easy to understand. It starts up very quickly and there's not much shutter delay (except in LiveView mode where it can be very slow at over a second). The pop-up flash is underpowered, so it would be wise to use an external flash if you're doing a lot of low-light photography.

Pros: Well-placed and sized buttons, enough space for the thumb on the back, grip ergonomically constructed.

Cons: The screen isn't a touchscreen and can't swivel, and Wi-Fi is not built-in.

ABOUT THE REST

These cameras all score 70%. Any one is a good buy provided it suits your budget and photographic needs.

Canon EOS 100D + EF-S 18-55 IS STM Kit

A budget DSLR that's one of the smallest and lightest models in its class.

Canon PowerShot G16

The G16 isn't the smallest compact camera, but it's cheaper, smaller and lighter than many of the bridge or superzoom models it competes with.

Panasonic Lumix DMC-GM1K + G VARIO 12-32mm 1:3.5-5.6 MEGA OIS

A small, light retro-looking system camera that can produce good-quality photos.

Canon EOS 650D Kit + Canon EF-S 18-55mm IS II

A reasonably priced camera that's aimed at the photographer who's keen to have top-end specifications without breaking the bank.

Nikon D7100 Kit + 18-105 VR

This is a camera primarily for enthusiasts, offering full exposure controls for a variety of situations and lighting conditions.

Sony Cyber-shot DSC-RX 100 M2 plus FDA-EV1MK

A not-so-cheap, pocket-sized camera with a 20Mp sensor and a 28-100mm zoom lens. ■

Rethink the ink

The cost of ink has long been an issue for home printers, but inkjets actually use ink when they're not printing, says **Denis Gallagher**

When it comes to printing, the devil is in the detail and with inkjet printers the detail is in the printer ink prices. Ink costs money – often lots of money – which is why companies can afford to sell their printers for ridiculously low prices, safe in the knowledge that once you buy a certain model they have you locked into an endless cost cycle of expensive ink cartridge purchases.

However, the cost of the cartridge is just part of the picture. The other cost is the ink that never makes it to your page.

Inkjet printers can accumulate air in the ink cartridges when not in use, and dried ink or dust on the print heads can also be an issue, so if they've not been used for a while they perform a cleaning cycle before printing, which uses ink – ink that you have paid for but will never make it to your page.

Laser printers don't have this cleaning cycle, and our measurements show no significant increase in the amount of toner used when the printer is used infrequently.

Inkjet or laser?

Choosing between an inkjet and a laser depends on how you intend to use your printer. Inkjets require no warm-up time, and can print glossy pictures on photo paper, but they do use extra ink in the cleaning cycle when they're not used frequently, and paper output can smear when wet – for example, when you use a highlighter. Lasers on the other hand literally need to warm up, can't print on photo paper and generally don't have such vibrant colours, but they can work out cheaper for normal printing.

For how we test printers, see **choice.com.au/MFPs** and **choice.com.au/printers**

Nutshell

- Ink costs can vary depending not only on whether you print a lot of colour but also how often you turn the printer on.
- Colour laser printers are not just for office use – they have cost benefits for home users as well

But the choice of laser or inkjet is only the first decision. Do you need the scanning and copying features of a multifunction printer (MFP), or is a standard printer – and perhaps a separate low-cost scanner – sufficient? Do you need extra features such as double-sided printing, photo-printing from memory

IMAGE: SHUTTERSTOCK

cards and wireless networking? How important is printing speed and the quality of the printout?

For many purposes, printing it yourself may not even be the best option – there are many bureaux and services that can print photos and albums, or even copy colour documents, much more cheaply.

To decide on the printer or printers you need, consider what you actually use a printer for:

- How much and how often do you print?
- How important is the quality of your printout?
- How much has to be in colour?
- Do you print photographs to keep?
- Do you need your printer to act as a scanner and a copier?
- How many devices (PCs, tablets, smart phones) do you want to print from?
- Do you want to print directly from a phone or camera without using a computer?

WHAT TO BUY Standard colour printers

COLOUR LASER PRINTERS

73%
DELL C2660dn

Good points

- Very good print score
- Excellent print speed score
- Economical photo printing
- Relatively low ink/toner costs
- Has poster print
- Can print duplex
- Has AirPrint support

Bad points

- None to mention
- Wi-Fi optional (for an extra $198)

70%
HP LaserJet Pro CP1025nw

Good points

- Excellent print speed score
- Economical text printing
- Economical photo printing
- Relatively low ink/toner costs
- Can print on film

Bad points

- Cannot print from mobile devices by Wi-Fi
- No AirPrint support

	PERFORMANCE							COSTS					FEATURES								
	Price ($)	Overall score (%)	Printing score (%)	Printing quality score (%)	Printing speed score (%)	Overall ease of use (%)	Networking (%)	Toner cost per text page ($)	Toner cost per graphics page ($)	Toner cost per photo page ($)	Annual ink / toner cost ($)	Total cost, first year (buy + ink/toner)	Poster print	Print on transparent film	Auto duplex	Ethernet	Wi-Fi	Bluetooth	Print from mobile devices over Wi-Fi	AirPrint	Print through Google CloudPrint
LASER (COLOUR)																					
DELL C2660dn	599	73	80	70	99	51	65	0.06	0.26	0.67	292	891	✓		✓	✓	(A)			✓	
HP LaserJet Pro CP1025nw	259	70	71	60	90	68	60	0.04	0.29	0.83	322	581		✓		✓	✓				
DELL C1660w	159	69	76	68	92	48	50	0.15	0.46	1.42	619	778	✓				✓				
Samsung CLP-365w	114	68	72	61	91	58	50	0.03	0.29	1.10	383	497	✓				✓		✓		
Brother HL-4570CDW	799	66	67	51	98	58	80	0.02	0.35	0.82	316	1115	✓			✓	✓		✓		
HP LaserJet Pro 200	319	65	66	52	91	55	80	0.04	0.27	0.74	291	610		✓		✓	✓		✓		✓
Brother HL-3170CDW	329	64	66	50	96	58	60	0.05	0.36	0.72	319	648	✓		✓	✓	✓		✓	✓	✓
Samsung CLP-415NW	170	64	68	53	95	52	60	0.05	0.26	0.92	341	511	✓	✓		✓	✓		✓	✓	
Samsung CLP-325W	208	63	62	49	87	68	60	0.05	0.33	0.81	335	543	✓	✓		✓	✓		✓		
INKJET (COLOUR)																					
HP OfficeJet Pro 8000	122	71	73	73	72	64	65	0.03	0.13	0.86	274	396		✓	✓	✓					
Canon Pixma iP7260	149	69	76	79	70	45	50	0.06	0.23	0.89	339	488	✓		✓		✓		✓	✓	
HP Officejet 6100	129	68	70	69	73	64	60	0.04	0.17	0.77	281	410				✓	✓		✓		✓

WHAT TO BUY Multifunction printers*

COLOUR INKJET PRINTERS

71%
HP OfficeJet Pro 8000 Enterprise Printer

Good points
- Excellent power score
- Economical text printing
- Economical photo printing
- Relatively low ink/toner costs
- Can print on film
- Can print duplex

Bad points
- No Wi-Fi
- No AirPrint support

IMAGES: SHUTTERSTOCK

COLOUR LASER MFPS

77%
DELL C2665dnf

Good points
- Excellent print speed score
- Very good copying score
- Economical text printing
- Economical photo printing
- Relatively low ink/toner costs
- Has poster print
- Can print duplex
- Has auto-feeder for scan/copy
- Has NFC

Bad points
- Cannot print on film
- No Wi-Fi

70%
Samsung CLX-4195FW

Good points
- Excellent print speed score
- Economical text printing
- Economical photo printing
- Relatively low ink/toner costs
- Can print on film

Bad points
- None to mention

COLOUR INKJET MFPS

70%
Canon Pixma MX926

There were several inkjet MFPs that delivered good performance as far as start-up time, ease of use, scanning, copying and printing speed. However, total cost of ownership (a combination of the ongoing ink costs as well as the purchase of the printer) is a big factor, and in this area, the Canon Pixma MX926 has a good mix of features and functions and is reasonably economical – so it's the inkjet colour model we recommend.

*Table on next page

SPECIFICATIONS

Responsiveness of printer, ON to 1st page (sec)	Claimed printing speed: mono (ppm)	Input paper capacity main tray	Min standard metric paper size	Number of cartridges required to load printer	Dimensions (cm, H x W x D)	Contact
18	27	250	B7	4	38 x 44 x 57	dell.com.au
21	16	150	B7	4	25x 40 x 43	hp.com.au
32	12	150	A6	4	28 x 40 x 45	dell.com.au
43	19	150	A6	4	27 x 38 x 46	samsung.com.au
29	30	250	A7	4	34 x 41 x 54	brother.com.au
56	14	150	A6	4	35 x 41 x 49	hp.com.au
20	23	250	A6	4	28 x 41 x 51	brother.com.au
46	19	250	A6	4	32 x 42 x 50	samsung.com.au
37	17	150	A6	4	28 x 39 x 47	samsung.com.au
146	35	250	A6	4	18 x 49 x 58	hp.com.au
168	15	125	A6	5	13 x 45 x 61	canon.com.au
214	16	250	B7	4	18 x 46 x 53	hp.com.au

USING THE TABLE **Price** Recommended retail, as of March 2014. **Scores** The overall score comprises printing (75%), ease of use (20%), and networking (5%) scores. Printing is made up of printing quality (65%) and printing speed (35%) scores. **Costs** The annual ink/toner costs are based on an average use scenario of 1000 mono prints, 250 colour document prints and 250 full-colour photo prints over the course of a year. Energy cost figures are not included in the average-use scenario but range up to approximately $10 per year for the models on test. **Auto duplexing** is double-sided printing without manual intervention; **USB** is direct connection to computer (all models on test have USB); **Ethernet** wired networking port; **Wi-Fi** wireless networking; **OCR software** converts scanned text to editable text. **Dimensions** includes all protrusions when fully loaded and ready to print. All standard colour printers on test support up to A4 printing and are colour. **TABLE NOTES** The Canon Pixma iP7260 and HP Officejet 6100 are the only printers on test that can print borderless A4 and 4 x 6 inch photo. The Canon Pixma iP7260 is the only model to print on CD/DVD. **(A)** $198 option.

PERFORMANCE			COSTS								SPECIFICATIONS									
	Price ($)	Overall score (%)	Printing score (%)	Printing quality score (%)	Printing speed score (%)	Scanning score (%)	Copying score (%)	Overall ease of use (%)	Networking (%)	Toner cost per text page ($)	Toner cost per graphics page ($)	Toner cost per photo page ($)	Annual ink / toner cost ($)	Total cost, first year (buy + ink/toner)	Poster print	Borderless printing (A4)	Borderless printing (4 x 6 photo)	Print on transparent film	Can print duplex	Auto-feeder for scan or copy
MULTIFUNCTION (MFP) COLOUR LASER																				
DELL C2665dnf	799	77	83	75	99	75	83	61	65	0.05	0.26	0.67	286	1085	✓				✓	✓
Samsung CLX-4195FW	273	70	70	56	96	78	74	58	80	0.04	0.22	0.78	292	565	✓			✓		✓
Brother MFC-9970CDW	1599	69	68	52	99	70	75	58	100	0.02	0.36	0.83	322	1921	✓				✓	✓
DELL C1765nfw	349	69	77	68	93	71	66	55	60	0.16	0.43	1.62	677	1026	✓					✓
Samsung CLX-3305FW	218	68	69	57	92	73	70	52	100	0.05	0.35	1.14	421	639	✓					✓
HP LaserJet Pro 100 MFP M175nw	369	65	73	67	83	81	75	28	60	0.04	0.38	1.09	411	780				✓		✓
HP Color LaserJet Pro MFP M177fw	330	64	65	54	84	69	74	45	80	0.06	0.29	0.97	372	702				✓		✓
HP LaserJet Pro 200 color MFP M276nw	699	64	64	49	91	71	64	55	80	0.04	0.28	0.74	293	992				✓		✓
MULTIFUNCTION (MFP) COLOUR INKJET																				
Brother DCP-J752DW	169	70	65	61	71	74	58	80	90	0.06	0.23	1.27	437	606	✓	✓	✓	✓	✓	✓
Brother MFC-J650DW	169	70	66	63	71	75	59	80	90	0.07	0.26	1.35	469	638	✓	✓	✓	✓	✓	✓
Brother MFC-J870DW	199	70	65	62	71	75	59	77	100	0.07	0.26	1.36	472	671	✓	✓	✓	✓	✓	✓
Canon Pixma MG6360	269	70	75	79	68	78	62	55	80	0.08	0.25	0.94	374	643	✓	✓	✓		✓	
Canon Pixma MX926	249	70	73	74	70	79	67	61	60	0.04	0.20	0.83	295	544	✓	✓	✓	✓	✓	✓
Epson Expression Photo XP-850	379	70	69	66	74	71	71	64	100	0.08	0.37	1.98	668	1047	✓	✓	✓		✓	✓
Epson Expression Premium XP-600	179	70	75	75	74	70	76	52	70	0.07	0.38	1.38	507	686	✓	✓	✓		✓	
Epson Workforce Pro WP-4540	499	70	73	72	74	69	67	64	80	0.02	0.20	0.81	273	772	✓				✓	✓
HP OfficeJet Pro 8600 Plus e-AIO	499	70	70	65	80	71	74	61	100	0.02	0.12	0.62	205	704		✓	✓		✓	✓
HP Photosmart 7520	269	70	71	68	76	81	78	55	70	0.06	0.26	0.77	314	583		✓	✓	✓	✓	✓
Brother DCP-J552DW	149	69	65	61	71	69	58	80	90	0.06	0.23	1.24	431	580	✓	✓	✓	✓	✓	
Canon Pixma MG7160	249	69	75	78	69	76	61	55	80	0.07	0.22	1.21	423	672	✓	✓	✓		✓	
Epson Expression Premium XP-710	249	69	73	72	74	66	65	58	90	0.06	0.30	1.13	416	665	✓	✓	✓		✓	
HP Envy 4500	99	69	69	70	67	75	79	64	50	0.04	0.26	0.79	304	403		✓	✓	✓	✓	
HP OfficeJet 4620 e-All-in-One	139	68	72	74	67	70	75	58	50	0.06	0.26	0.88	342	481		✓	✓			✓
Canon Pixma MG5560	129	67	77	80	71	73	62	45	70	0.05	0.21	0.84	315	444		✓	✓		✓	
Canon Pixma MG6460	127	67	75	77	72	73	67	45	70	0.05	0.22	0.92	336	463	✓	✓	✓		✓	
Epson Expression Premium XP-610	179	67	72	71	73	66	67	58	70	0.07	0.33	1.21	457	636	✓	✓	✓		✓	
HP OfficeJet 6620 e-All-in-One	199	67	70	69	73	74	62	58	70	0.05	0.18	0.82	298	497		✓	✓			✓
Canon Pixma MG3260	89	66	63	65	58	76	69	68	50	0.08	0.30	1.03	414	503	✓	✓	✓		✓	
Canon Pixma MG4260	129	66	65	67	60	78	58	68	50	0.08	0.32	1.05	424	553	✓	✓	✓		✓	
Epson Workforce WF-3540	299	66	60	59	62	66	66	77	80	0.04	0.23	0.94	329	628	✓	✓	✓		✓	✓
Canon Pixma MG3560	89	65	64	66	59	77	64	58	70	0.07	0.31	0.99	397	486	✓	✓	✓		✓	
Canon Pixma MX396	79	65	64	67	58	82	67	61	30	0.08	0.30	1.06	417	496	✓	✓	✓			✓
Epson Workforce WF-3520	199	65	56	52	64	70	67	77	80	0.03	0.22	0.74	274	473	✓	✓	✓		✓	✓
HP Photosmart 6520	139	65	63	57	73	78	72	55	70	0.06	0.26	0.88	345	484		✓	✓	✓	✓	
HP Deskjet 2540	69	63	66	66	66	65	73	48	50	0.07	0.39	1.26	485	554						
Canon Pixma MG2560	39	63	73	72	74	71	63	45	30	0.09	0.31	1.05	431	470	✓					
Canon Pixma MP230	49	61	58	57	59	68	65	68	30	0.12	0.43	1.24	534	583	✓					
HP Deskjet 1510	59	61	66	66	66	65	73	45	30	0.07	0.39	1.26	485	544						

USING THE TABLE Fax includes facsimile send/receive capability. **LCD type** *Colour* means it has a full-colour LCD. *Mono* is single-colour only. *Touch* allows some control by touching the screen. **Displays** may networking (5%). **Printing score** is made up of printing quality (65%) and printing speed (35%). All MFPs on test support up to A4 printing and are colour. **TABLE NOTES (A)** $198 option. **(B)** Supports NFC

Feeder for scan or copy can auto-duplex	Fax without PC	Ethernet	Wi-Fi	Print from mobile devices over Wi-Fi	AirPrint	Print through Google CloudPrint	Removable card (memory stick and SD)	Removable card (CF)	Preview screen	OCR software	Photo editing or organising software	Time from ON to first page (sec)	Claimed printing speed: colour (ppm)	Claimed printing speed: mono (ppm)	LCD type (colour, mono, touch)	Input paper capacity main tray	Min standard metric paper size	Number of cartridges required to load printer	Dimensions (cm, H x W x D)	Contact
✓	✓	✓	(A)	(B)	✓				✓			52	27	27	Colour, touch	250 (C)	B7	4	56 x 44 x 57	dell.com.au
	✓	✓	✓	✓	✓	✓				✓		67	19	19	Colour, touch	250	A6	4	45 x 42 x 44	samsung.com/au
	✓	✓	✓	✓						✓		33	30	30	Colour, touch	300 (C)	B7	4	53 x 49 x 53	brother.com.au
	✓	✓	✓							✓		38	12	15	Mono	150 (C)	A5	4	34 x 41 x 49	dell.com.au
	✓	✓	✓	✓	✓					✓		46	4	18	Mono	150	A6	4	33 x 41 x 48	samsung.com/au
		✓	✓	✓		✓				✓		188	4	16	Mono	150	A6	4	34 x 44 x 45	hp.com/au
	✓	✓	✓	✓	✓	✓						72	4	17	Colour, touch	150	B7	4	34 x 44 x 44	hp.com/au
	✓	✓	✓	✓	✓	✓				✓		60	14	14	Colour, touch	150	A6	4	48 x 45 x 47	hp.com/au
			✓	✓	✓	✓	✓		✓	✓		28	ns	ns	Colour, touch	100	A6	4	18 x 46 x 52	brother.com.au
	✓		✓	✓	✓	✓	✓		✓	✓		32	27	33	Colour, touch	100	B7	4	18 x 46 x 52	brother.com.au
	✓	✓	✓	✓(B)	✓	✓	✓		✓	✓		32	ns	ns	Colour, touch	100	A6	4	18 x 46 x 52	brother.com.au
		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	172	10	15	Colour, touch	125	A6	6	15 x 45 x 60	canon.com.au
✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	21	10	15	Colour	250	A6	5	23 x 49 x 63	canon.com.au
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	41	9	9.5	Colour, touch	100	B7	6	19 x 39 x 50	epson.com.au
			✓	✓	✓	✓	✓		✓	✓	✓	34	9	12	Colour	100	A6	5	14 x 40 x 51	epson.com.au
✓	✓	✓	✓	✓	✓	✓				✓		31	11	16	Colour, touch	250 (B)	B7	4	46 x 45 x 66	epson.com.au
✓	✓	✓	✓	✓		✓	✓		✓	✓		58	16	20	Colour, touch	250 (B)	B7	4	32 x 50 x 64	hp.com/au
	✓		✓	✓	✓	✓	✓		✓		✓	70	33	34	Colour, touch	125	B7	5	22 x 45 x 56	hp.com/au
			✓	✓	✓	✓	✓		✓			27	ns	ns	Colour, touch	100	A6	4	17 x 46 x 52	brother.com.au
		✓	✓	✓	✓	✓	✓	✓	✓		✓	24	10	15	Colour, touch	125	A6	6	14 x 47 x 61	canon.com.au
			✓	✓	✓	✓	✓		✓		✓	39	32	32	Colour, touch	100	A6	5	14 x 39 x 53	epson.com.au
			✓	✓	✓	✓						30	ns	ns	Mono	100	A6	2	13 x 45 x 57	hp.com/au
	✓		✓	✓		✓				✓		25	22	23	Mono	80	A6	4	20 x 45 x 57	hp.com/au
			✓	✓	✓	✓					✓	20	8.7	12.2	Colour	100	A6	5	15 x 46 x 61	canon.com.au
			✓	✓	✓	✓	✓		✓		✓	23	9.7	15	Colour	100	A6	5	15 x 46 x 61	canon.com.au
			✓	✓	✓	✓	✓		✓		✓	30	32	32	Colour	100	A6	5	14 x 39 x 53	epson.com.au
	✓		✓	✓		✓				✓		30	8	14	Colour, touch	250	A6	4	25 x 46 x 60	hp.com/au
			✓	✓	✓					✓	✓	21	5	9.2	Mono	100	A6	2	16 x 45 x 58	canon.com.au
			✓	✓	✓	✓	✓		✓	✓	✓	21	5.7	9.9	Colour	100	A6	2	21 x 45 x 58	canon.com.au
✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		16	9.3	15	Colour, touch	250	B7	4	30 x 45 x 53	epson.com.au
			✓	✓	✓	✓					✓	39	5.7	9.9	na	100	A6	2	15 x 45 x 44	canon.com.au
	✓										✓	49	5	8.7	Mono	100	A6	2	20 x 46 x 66	canon.com.au
✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		30	9.3	15	Colour	250	A6	4	24 x 46 x 59	epson.com.au
			✓	✓	✓	✓	✓		✓		✓	65	22	22	Colour, touch	80	B7	4	16 x 43 x 57	hp.com/au
			✓	✓	✓							16	4	7	Mono	60	A6	2	28 x 43 x 56	hp.com/au
											✓	30	4	8	na	60	A6	2	24 x 42 x 60	canon.com.au
										✓	✓	22	4.8	7	na	100	A6	2	28 x 48 x 57	canon.com.au
												16	4	7	na	60	A6	2	28 x 43 x 56	hp.com/au

be text-only or include graphics. **Price** Recommended retail, as of March 2014. Overall score comprises the separate scores for printing (45%) overall ease of use (20%), scanning (15%), copying (15%), for printing from a mobile. **(C)** Also has A4 multipurpose tray for multiple sheets. **na** Not applicable. **ns** Not stated.

I can hear clearly now

You would think it might be curtains for the humble landline but it's not over yet, says **Denis Gallagher**

Nutshell

- Some of the latest models have a smartphone look and feel, including one model that is a home phone at home and a smartphone when you walk out the door.
- Interference in your home environment could have a big impact on your effective range.
- New model releases help complement rather than compete with the

An obituary is written for the landline phone every year, but it seems that many of us refuse to get the message. Sales of cordless phones leading up to February 2014 topped one million units, just as it did the year before. So it looks like the cordless phone will be a fixture in many homes for some time to come.

The latest models are staying relevant by forming stronger links with smartphones. They can also provide peace of mind in case of an emergency, since many will operate during a blackout.

Extending your range

The range for a cordless phone is usually determined by the position of the base unit, not the handset. So if the range for a phone is 100 metres, adding an additional handset to the phone mix will not increase the range to 200 metres – unless you purchase a model that can support a repeater.

Companies such as Uniden and Panasonic introduced repeating technology to push the overall phone coverage beyond the limit of the main base station. Significantly increased range can be achieved through the use of stand-alone repeaters or an additional handset base which has the ability to retransmit the signal beyond the original station.

Models with support for repeater units in this test are the **Uniden XDECT 8155 + 1**, **8115 + 1**, **Panasonic KX-PRW120**, **KX-PRX120**, **KX-PRX150**, **KX-TG6822**, **KX-TG2722** and **KX-TG8562**.

We've stopped doing range testing for these phones, due to the significant variance in our results for some models, depending on the day and time tested. Outside forces that may affect range performance include radio interference, physical obstruction or even cloud cover. What we can say is that all the models delivered at least 50 metres, with the range for some models up to 200 metres depending on the time of the test, showing that your environment has a significant effect on your phone's performance.

NEW DIRECTION FOR PANASONIC

The latest Panasonic phone line-up features a dramatic move away from the standard cordless phone look. And although the overall scores were not as good as the top-performing models (due mainly to much lower talk time performance results), all of the models have something to offer and are recommended, unless you talk for more than 12 hours at a time before charging the phone again.

Panasonic KX-PRX150

The most "out there" phone is the **Panasonic KX-PRX150** which appears to be nothing more than a standard Android smartphone running on the OS 4.0.4 (Ice Cream Sandwich). That is, until you walk inside the front door of your home where it transforms into a cordless phone with a standard phone number allowing you to make and receive untimed local calls. Walk back out the door and it reverts to a smartphone, accessing the phone network SIM. This hybrid feature suddenly turns it into one of those "why hasn't anyone done this before?" products as it seems to be the perfect phone – for some people. Unfortunately it doesn't support Telstra's 850MHz network so you need to be on Optus, Amaysim, or a carrier that uses the 900MHz 3G band. As far as a cordless phone goes it performs well overall, with many of the Google Play apps coming in very handy for collecting email and browsing the web at home using your Wi-Fi. The **Panasonic KX-PRX120** is similar to the KX-PRX150, but it doesn't have SIM support and as such is merely a landline cordless phone, although with Wi-Fi support it will act like an Android tablet device.

Panasonic KX-PRX120

Incoming/ outgoing barring provides a level of control in case you don't want to accept calls from certain companies or individuals, as well as preventing members of the household calling specific numbers without permission

Panasonic KX-PRW120

The **Panasonic KX-PRW120** has a similar smartphone connectivity feature to the models with Bluetooth that allow smartphones to operate as additional handsets. However, it uses a Wi-Fi connection which, depending on the Wi-Fi network, could increase the useable range of the mobiles within the home.

The **Panasonic KX PRS120** is the most affordable and basic model of the new Panasonic range, looking like a 1990s mobile phone with small colour screen and large keypad. However, it packs in some useful features including a baby monitor and call barring for incoming and outgoing calls.

Panasonic KX PRS120

IMAGE: SHUTTERSTOCK

WHAT TO BUY

BEST PHONE WITHOUT ANSWERING MACHINE

83%

Uniden XDECT 8115 + 1

While the **Uniden XDECT 8115 + 1** may not have an answering machine, it does have some great features such as the ability to make a call during a power outage, USB port to charge your smartphone or e-reader and Bluetooth support for transforming your mobile into an additional handset at home. Sound quality is also very good overall with T-coil support for those using a hearing aid. A baby monitor feature makes it a good option for young families.

BEST PHONE WITH ANSWERING MACHINE

82%

Uniden XDECT 8155 + 1

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	PERFORMANCE										FEATURES								
	Price ($)	Overall score (%)	Sound quality receiving score (%)	Sound quality sending score (%)	Ease of use score (%)	Battery life score (%)	Answering machine score (%)	Talk time (hours)	Standby time (days)	Charging time (hours)	Operates during power outage	Colour display (LCD)	GAP compatible	Headset port	Bluetooth handset support	Night mode	Call barring (incoming)	Outgoing call barring	Hearing aid compatible
• **Uniden** XDECT 8115 + 1	110	83	77	85	80	94	na	22:30	10	15	✓			✓	✓	✓(B)			✓
• **Uniden** XDECT 8155 + 1	160	82	73	83	80	94	71	22:30	10	15	✓			✓	✓	✓(B)			✓
Panasonic KX-TG6822	80	80	82	77	79	81	74	19:30	7	7	✓		✓			✓	✓	✓(C)	
Panasonic KX-TG2722	65	79	76	75	75	94	71	22:30	7	7			✓						
Uniden SS E37 + 1	150	79	75	77	82	81	77	19:30	7	15				✓		✓(B)	✓		✓
Uniden SS E35 + Pendant	160	78	69	78	82	81	78	19:30	7	15				✓		✓(B)	✓		✓
Panasonic KX-TG1612	55	77	80	78	75	79	na	19:00	7	7									
• **Uniden** DECT 1635 + 1	65	76	71	77	81	69	69	16:30	7	15	✓					✓(B)			✓
• **Uniden** DECT 3135 + 1	90	76	76	78	81	63	69	15:00	7	15	✓					✓(B)			✓
Telstra 12250 Twin	60	75	77	73	78	67	66	16:00	7	16	✓								
Uniden DECT 3115 + 1	65	75	72	80	81	63	na	15:00	7	15	✓					✓(B)			✓
Uniden DECT 2130 + 1	100	75	73	78	81	60	70	14:30	7	15						✓(B)			✓
Panasonic KX-TG8562	150	73	79	83	76	50	78	12:00	10	7	✓	✓	✓	✓		✓	✓	✓(C)	
Uniden DECT 3136BT + 1	130	73	72	75	81	56	75	13:30	7	15	✓				✓	✓(B)			✓
• **Panasonic** KX-PRS120	80	71	80	83	75	44	69	10:30	6	7		✓	✓			✓	✓	✓	
• **Panasonic** KX-PRW120	130	71	78	82	75	46	69	11:00	6	7		✓	✓		✓(A)	✓	✓	✓	
• **Panasonic** KX-PRX120	280	70	73	75	72	56	68	13:30	9	5		✓	✓	✓	✓	✓	✓		
• **Panasonic** KX-PRX150	330	70	76	78	72	52	68	12:30	8	5		✓	✓	✓	✓	✓	✓		
iDECT Eclipse 8035 + 1	229	69	73	77	79	35	50	8:30	9	15			✓						
• **Gigaset** S820 + 1	399	67	73	73	79	31	71	7:30	10	10		✓	✓		✓	✓	✓		
Telstra Slim Touch 12950 Twin	160	65	71	73	65	50	67	12:00	4	16					✓				
• **Telstra** 13950 Twin with video doorbell	199	60	63	75	64	33	71	8:00	5	16		✓							

The **Uniden XDECT 8155 + 1** is basically the XDECT 8155 + 1 with an answering machine. So it has the same features and functionality and performance of the XDECT 8115 + 1. Both models also support a repeater box to extend your reception range significantly. An outdoor repeater box is also available which can be handy if you want to take your phone into the backyard. Pairing up to four mobiles to the landline can be useful in a large household as it means someone in the home should be able to take an incoming call straight away.

80%
Panasonic KX-TG6822

The **Panasonic KX-TG6822** delivers very good performance and is great value with features such as night mode, where you can have the phone go straight to message after a nominated time, as well as the ability to operate during a power outage. Call barring for selected incoming and outgoing calls offers peace of mind and may also reduce those irritating marketing calls that always happen during the evening meal. While it may not have Bluetooth support or a USB charger if you don't need it, why pay for it?

SPECIFICATIONS																
Wall mountable	Repeater station	Baby monitor	Minimum rings	Maximum rings	Total phonebook	Total ringtones	Polyphonic ringtones	Power consumption (W, base only)	Handset ringer loudness (dB)	Maximum volume for handset speaker (dB)	Maximum earpiece volume (dB)	Base ringer maximum volume (dB)	Handsets supported (including handsets in pack)	Answering machine recording time (min)	Battery type	Contact
✓(D)	✓	✓	na	na	200	10	6	0.7	82	73	74	na	12	na	NiMH pack	uniden.com.au
✓(D)	✓	✓	6	12	200	10	6	0.7	81	74	72	79	12	30	NiMH pack	uniden.com.au
✓	✓		2	9	120	40	30	0.6	76	76	72	78	6	30	2 x AAA	panasonic.com.au
✓	✓		2	9	50	10	5	0.4	78	83	70	80	2	18	2 x AAA	panasonic.com.au
✓(D)			6	12	200	6	2	0.9	77	85	82	80	6	14	NiMH pack	uniden.com.au
✓(D)			6	12	200	6	2	0.8	77	85	79	92	6	14	NiMH pack	uniden.com.au
✓			na	na	50	12	na	0.5	74	na	70	na	2	na	2 x AAA	panasonic.com.au
✓(D)			6	12	70	7	4	1.0	81	75	63	70	2	14	NiMH pack	uniden.com.au
✓(D)			6	12	100	7	4	0.8	79	72	74	78	6	16	NiMH pack	uniden.com.au
✓			2	8	70	10	na	0.8	81	83	76	85	4	15	NiMH pack	telstrahomephones.com.au
✓(D)			na	na	100	7	4	0.7	73	78	70	na	5	na	NiMH pack	uniden.com.au
✓(D)			6	12	100	7	4	1.3	78	74	62	na	6	16	NiMH pack	uniden.com.au
✓	✓	✓	2	9	250	40	30	1.1	75	76	71	76	6	40	2 x AAA	panasonic.com.au
✓(D)			6	12	100	7	4	0.8	81	79	72	78	6	16	NiMH pack	uniden.com.au
		✓	2	9	300	40	30	0.5	78	74	67	na	6	40	2 x AAA	panasonic.com.au
	✓	✓	2	9	500	40	30	1.3	74	70	73	na	6	40	2 x AAA	panasonic.com.au
✓(D)	✓		2	9	300	61	61	0.3	64	66	64	na	6	40	Li-ion	panasonic.com.au
✓(D)	✓		2	9	300	61	61	0.3	64	66	64	na	6	40	Li-ion	panasonic.com.au
			2	7	200	10	5	0.6	72	74	73	na	4	30	2 x AAA	mint-technology.com.au
✓		✓	0	9	500	20	11	0.6	75	78	85	na	6	55	2 x AA	gigaset.com
			2	8	200	18	13	0.9	80	88	76	80	3	60	NiMH pack	telstrahomephones.com.au
✓(D)			2	6	50	10	na	1.2	74	75	73	71	2	15	NiMH pack	telstrahomephones.com.au

USING THE TABLE
All models were tested with an extra handset, as multi-handset phones are found in many homes. Models that were only available as a single handset were tested using an additional handset of the same model or brand, or a DECT handset from another brand. Answering machine performance is scored and shown in the table, but does not contribute to overall score. This allows direct comparisons to be made between landline phones with and without an answering machine. **Scores** The overall score is made up receiving sound quality (20%), sending sound quality (20%), ease of use (40%), battery life (20%) and answering machine (0%). Charging times are rounded to the nearest hour. **Price** Recommended retail, as of March 2014.

TABLE NOTES
• Newly tested model **na** Not applicable. **(A)** Wi-Fi support to connect smartphones as additional landline handsets. **(B)** A do not disturb function allows the user to set a time period where the ringer is set to off. **(C)** Up to six numbers can be barred. If you enter an area code then that entire area is barred. You can assign restrictions to particular handsets. **(D)** Base station is wall mountable, separate docking station is not. **na** Not applicable.

Let there be light

Bike lights are better and brighter, **Matthew Steen** and *RideOn* magazine discover

Nutshell

- ***RideOn*, Bicycle Network Victoria's cycling magazine, has carried out its ninth bike light test.**
- **Being safe means being visible to drivers – you must have good lights.**

As road users, bike riders are legally obliged to be visible when riding in the dark. So it's vital you have good-quality lights and reflectors fitted to your bike to make you as visible as possible on the road.

Bike lights are more and more convenient; we also find they're getting brighter every year. The majority of lights on test are USB rechargeable, which means you don't need to replace or charge removable batteries. This generally means shorter battery life, but the lights are easier to take off and charge regularly. (Some lights have an indicator when the charge is low.) Water resistance is also improving – since most are now USB rechargeable, they don't have openings to remove batteries that can let in water.

Many lights can now be mounted without tools, so you can quickly swap lights or take them with you when you park somewhere. When fitting your light make sure it's tightly secured – if it's not it may end up pointing at the ground should you go over a bump or pot hole.

For more information on what to look for, go to **choice.com.au/bikelights**

HOW THEY TEST

Bicycle Network Victoria (bicyclenetwork.com.au) takes the issue of visibility seriously, and each year gathers a panel of industry experts to assess a range of bike lights. The panel gathers in an inner-city Melbourne laneway after sunset and assesses each light in line with the Australian Road Rules.

In its ninth year of bike light testing, the organisation's official magazine *RideOn* recently put the newest batch of lights to the test, a combination of compact front and rear lights and high-powered front lights. See the full report in the April/May issue of *RideOn*.

What's the law?

When you ride your bike at night or in low-visibility conditions, such as fog or heavy rain, the Australian Road Rules (which form the basis of state and territory

WHAT TO BUY

Compact front lights

88% Moon Mask $60
82% Knog Blinder (front) (Best value) $50

Compact rear lights

86% Moon Shield $60
83% Knog Blinder 1 rear (Best value) $30

High-powered front lights

86% Fyxo King Bright (Best value) $79

road rules) require that you have lights. These include:

- a white light at the front
- a red light at the rear
- a red rear reflector.

The lights can be steady or flashing, and must be visible for at least 200m. Ideally, they should also be visible 50m from the side. The red rear reflector should be visible from 50m from the rear when light is projected onto it by a vehicle's headlight at low beam. Good head-on and visibility from an angle is essential, but durability, size, ease of fitting and removing and battery replacement are also important.

HIGH-POWERED LEDs

High-powered lights are great for being seen, and are most visible when using their flash mode as their light can meld with the surrounding street and traffic lights on constant beam mode. They're great if you're riding on an unlit path, however their bright light can be a nuisance on the road for other riders and drivers. If you use a high-powered light for riding on lit roads, make sure they're pointed down at the ground and a few metres in front of the front wheel. Another option is to also mount a compact front light to switch to when riding on the lit part of the road. ■

You'll find all 109 models tested and reviewed by *RideOn* at **choice.com.au/bikelights**, along with details of how *RideOn* tests bike lights

			PERFORMANCE								SPECIFICATIONS				
		Price	Overall score (%)	Function and quality (%)	Price (%)	Appearance (%)	Visibility (%)	Useability (%)	Durability (%)	Waterproofness (%)	Weight (grams)	Charge method / battery	Battery life claim (h)	Time to charge claim (h)	Contact
COMPACT FRONT	**Moon** Mask (front)	60	88	88	80	90	86	90	100	85	36	USB	ns	ns	moonlights.com.au
	Lezyne Macro Drive (front)	75	87	88	70	90	90	50	100	100	109	USB	6	3-4	monzaimports.com.au
	Serfas Raider USL-5	60	84	84	75	90	80	90	100	95	40	USB	ns	ns	monzaimports.com.au
	Knog Blinder (front)	50	83	82	90	90	75	90	90	90	37	USB	ns	ns	velovita.net.au
	Cateye Nano Shot	100	83	87	70	70	80	90	100	100	99	USB	12	3.5	sheppardcycles.com
	Moon Meteor	90	81	82	60	90	72	90	100	100	84	USB	8	2	moonlights.com.au
	ES Gamma Ray	130	81	86	40	75	86	60	95	90	143	USB/mains	4.5	3	echelonsports.com.au
COMPACT REAR	**Moon** Shield	60	86	84	80	90	83	85	100	90	57	USB	ns	ns	moonlights.com.au
	ES Beacon	50	85	86	80	90	81	85	95	90	53	USB	5.5	2	echelonsports.com.au
	Knog Blinder 1 (rear)	30	83	80	90	100	69	90	100	100	16	USB	11	2.5	knog.com.au
	Knog Blinder rear	50	82	80	80	100	72	93	90	90	40	USB	ns	ns	knog.com.au
	Serfas Thunderbolt (rear)	50	81	82	80	80	74	73	100	100	48	USB	9	3-6	velovita.net.au
HIGH-POWERED FRONT	**Fyxo** King Bright	79	86	90	90	50	83	100	100	70	411	Mains	ns	ns	fyxo.co
	Moon Power 500 (front)	150	86	88	80	65	81	99	100	90	174	USB	ns	ns	moonlights.com.au
	Magicshine MJ808E	179	83	88	70	60	81	100	100	90	391	Mains	ns	ns	magicshineaustralia.com.au
	Lezyne Power Drive	100	80	79	90	85	71	60	100	100	158	USB	5.5	4-6	monzaimports.com.au
	NiteRider Lumina 350	120	80	82	80	50	71	95	100	100	170	USB	ns	4.5	jetblackproducts.com
	Cateye Nano Shot+	150	78	82	80	40	73	85	100	100	179	USB	2	8	sheppardcycles.com
	Serfas True 500+	150	77	76	85	90	66	60	100	100	149	USB/mains	5.5	4-6	velovita.com.au

TABLE NOTES ns Not stated.

IMAGE: SHUTTERSTOCK

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"I decided to fulfil a life's dream and go to China... without my Gravity Defyer shoes this would be impossible"

HARD WORD

Thanks this month to eagle-eyed members Hazel McDonald, K. Wilson and Jo Marsh, along with CHOICE staff. If you have any other examples you'd like to share with other CHOICE members, send them with your full name to The Hard Word, 57 Carrington Road, Marrickville, NSW 2204. Please don't email us your entries – we need the unmarked originals.

Compiled by Siobahn Donohoe

just Squeezed
FRUIT JUICES
Glow on the inside & out
this little bottle contains antioxidants and vitamin rich fruit sourced from the best orchids around the world. Invigorate yourself with these exotic flavours.
Nutrition Information

SQUEEZING THE TRUTH

Juice sourced from "orchids around the world" certainly sounds "exotic", but it's the company's name – "Just Squeezed" – that's the real hard sell here. Just take a look at the ingredients list...

On guard!

We're not quite sure how this little guy, made from "life-like poly-resin", is expected to scare off unwanted visitors.

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